

# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 124013**

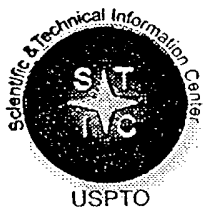
**TO: Amanda Walke**  
**Location: REM 9D64**  
**Art Unit : 1752**  
**June 10, 2004**

**Case Serial Number: 10/693199**

**From: Kathleen Fuller**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-2505**  
**Kathleen.Fuller@uspto.gov**

### **Search Notes**

This was difficult as I wasn't really sure that the so-called monomers would be indexed that way by CA. I did a broad search covering all the 4 structures as monomers or as structurally repeating units. Then I did 2 subset searches for the solubility promoting and solubility inhibiting compounds. I also did a text search incase the siloxanes were not structurally indexed. And I forgot to change to your name before I did the printout. Very sorry but I didn't want to do it again and cut down more trees.



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Amadea Walker Examiner #: 15663 Date: 6/1/2004  
 Art Unit: 1152 Phone Number 30 212-1351 Serial Number: 101693199  
 Mail Box and Bldg/Room Location: REM 9004 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Bib Sheet Attached

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a resist composition comprising

monomeric units (II) & (III)

(III) & (IV)

or (II) & (V) attached.

Thank you.

\*\*\*\*\*

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>12</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>6/10/04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>40</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>101</u>	Other _____	Other (specify) _____

... data

Walke 10/693199

~~ELHILO~~ 10/204749 6/10/04 Page 1

=> file reg

FILE 'REGISTRY' ENTERED AT 15:59:36 ON 10 JUN 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2  
DICTIONARY FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplu

FILE 'HCAPLUS' ENTERED AT 15:59:41 ON 10 JUN 2004  
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FILE COVERS 1907 - 10 Jun 2004 VOL 140 ISS 24  
FILE LAST UPDATED: 9 Jun 2004 (20040609/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> d que

L3 STR |

Si—O  
1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

Walke 10/693199

ELHILO 10/204749 6/10/04 Page 2

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L7 SCR 2043  
L10 STR 2

C—G1 F—Cb—G2 Ak—G3 F—Ak—N O≡C—O  
1 2 5 @3 4 @6 7 8 @9 10 11 @12 13

F—Ak—OH C≡O C—O—C—O—C  
14 @15 16 @17 18 19 20 @21 22 23

VAR G1=3/6  
VAR G2=OH/N/9/12/15/17/21  
VAR G3=OH/N/12/17/21  
NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 11  
CONNECT IS E1 RC AT 18  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE  
L12 32323 SEA FILE=REGISTRY SSS FUL L3 AND L10 AND L7  
L15 STR

F—Cb—G2 Ak—G3 F—Ak—N O≡C—O F—Ak—OH  
5 @3 4 @6 7 8 @9 10 11 @12 13 14 @15 16

C~G1 O~Si~G4 O~C~G1 N~C~G1 S~C~G1  
@17 18 21 20 19 @24 25 26 @27 28 29 @30 31 32

Ak~C~G1 F~Cb~C~G1  
@33 34 35 39 @36 37 38

VAR G1=3/6  
VAR G2=OH/15/12/N/9  
VAR G3=OH/12/N  
VAR G4=17/24/27/30/33/36  
NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 11  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 35

STEREO ATTRIBUTES: NONE  
L18 9618 SEA FILE=REGISTRY SUB=L12 SSS FUL L15

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

32, 323 polymers  
covering II, III, IV, V

Subset search  
for  
solubility promoter

Nalke

L22 STR  
F—Cb—G2 Ak—G2 C~G1 O~Si~G4 O~C~G1  
5 @3 4 @6 7 @17 18 21 20 19 @24 25 26

N~C~G1 S~C~G1 Ak~C~G1 F~Cb~C~G1  
@27 28 29 @30 31 32 @33 34 35 39 @36 37 38

O=C~C C—O—C—O—C  
40 @41 42 43 44 @45 46 47

*Subset search for  
solubility inhibitor*

VAR G1=3/6  
VAR G2=41/45  
VAR G4=17/24/27/30/33/36  
NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 40  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE

L24 55 SEA FILE=REGISTRY SUB=L12 SSS FUL L22  
L25 9 SEA FILE=REGISTRY ABB=ON L18 AND L24  
L26 6183 SEA FILE=HCAPLUS ABB=ON L18  
L27 30 SEA FILE=HCAPLUS ABB=ON L24  
L28 8 SEA FILE=HCAPLUS ABB=ON L26 AND L27  
L29 5 SEA FILE=HCAPLUS ABB=ON L28 AND ?RESIST?  
L30 1 SEA FILE=HCAPLUS ABB=ON L28 AND PHOTOG?/SC, SX  
L31 1 SEA FILE=HCAPLUS ABB=ON L29 AND L30  
L32 0 SEA FILE=HCAPLUS ABB=ON L28 AND IMAG?  
L33 0 SEA FILE=HCAPLUS ABB=ON L28 AND PHOTORESIST?  
L34 4 SEA FILE=HCAPLUS ABB=ON L25  
L35 1 SEA FILE=HCAPLUS ABB=ON L34 AND PHOTOG?/SC, SX  
L36 0 SEA FILE=HCAPLUS ABB=ON L34 AND IMAG?  
L37 16282 SEA FILE=HCAPLUS ABB=ON L12  
L38 1037 SEA FILE=HCAPLUS ABB=ON L37 AND IMAG?  
L39 236 SEA FILE=HCAPLUS ABB=ON L38 AND COMPOSITION?  
L41 2 SEA FILE=HCAPLUS ABB=ON L39 AND SOLUB?(5A) (INHIB? OR PROMOT?)  
  
L42 12 SEA FILE=HCAPLUS ABB=ON L37 AND SOLUB?(5A) (INHIB? OR PROMOT?)  
  
L43 3 SEA FILE=HCAPLUS ABB=ON L42 AND PHOTOG?/SC, SX  
L44 4153 SEA FILE=REGISTRY ABB=ON L12 AND 1-40/F  
L45 1610 SEA FILE=HCAPLUS ABB=ON L44  
L47 413 SEA FILE=HCAPLUS ABB=ON L45 AND (IMAG? OR PHOTOG?/SC, SX OR  
PHOTORESIST? OR PHOTO?(3A)?RESIST?)  
L49 190 SEA FILE=HCAPLUS ABB=ON L47 AND COMPOSITION?  
L51 2 SEA FILE=HCAPLUS ABB=ON L49 AND SOLUB?(5A) (PROMOT? OR  
INHIBIT?)  
L52 31 SEA FILE=HCAPLUS ABB=ON L45(L) IMAG?  
L53 6 SEA FILE=HCAPLUS ABB=ON L52 AND SOLUB?  
L54 4 SEA FILE=HCAPLUS ABB=ON (L30 OR L31 OR L32 OR L33) OR L35 OR  
L36 OR L41 OR L43

L55 182 SEA FILE=HCAPLUS ABB=ON L37(L)IMAG?  
 L56 31 SEA FILE=HCAPLUS ABB=ON L45 AND L55  
 L59 6 SEA FILE=HCAPLUS ABB=ON L56 AND SOLUB?  
 L61 10 SEA FILE=HCAPLUS ABB=ON L54 OR L51 OR L53 OR L59  
 L75 39 SEA FILE=HCAPLUS ABB=ON L49 AND ACID(3A)?SENSIT?  
 L76 14 SEA FILE=HCAPLUS ABB=ON L75 AND SOLUB?  
 L77 24 SEA FILE=HCAPLUS ABB=ON L61 OR L76

=> d l77 1-24 bib abs hitind hitstr

L77 ANSWER 1 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:412110 HCAPLUS  
 TI Positive-working photosensitive resin **composition** for  
 manufacture of display device  
 IN Miyoshi, Kazuto; Okuda, Ryoji; Tomikawa, Masao  
 PA Toray Industries, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 37 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004145320	A2	20040520	JP 2003-340972	20030930
PRAI	JP 2002-288552	A	20021001		

AB The **composition** contains (A) alkali-**soluble** heat-resistant resin, (B) esterified quinonediazide compound, and ≥1 colorant selected from (C1) a dye, (C2) an inorg. pigment, or (C3) an organic pigment. Pattern is formed by coating the **composition** on a substrate, exposing, developing by alkaline developer and heat treating. An organic electroluminescent display device using the obtained pattern is also claimed. The **composition** is useful for manufacture of insulating separator and black matrix of display devices.

IC ICM G03F007-037  
 ICS C08G069-26; G03F007-004; G03F007-022; G03F007-027; H05B033-14; H05B033-22

CC 74-13 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 38

ST electroluminescent device photosensitive resin **compn** dye pigment; liq crystal display separator black matrix photosensitive resin; quinonediazide ester alkali **soluble** resin photosensitive **compn**

IT Carbon black  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (MA 100; pos.-working photosensitive resin **composition** for manufacture of display device)

IT Photoimaging materials  
 (photopolymerizable; pos.-working photosensitive resin **composition** for manufacture of display device)

IT Dielectric films  
 Electroluminescent devices  
 Liquid crystal displays  
 (pos.-working photosensitive resin **composition** for manufacture of display device)

IT Polyimides  
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

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(pos.-working photosensitive resin **composition** for manufacture of display device)

IT Polyamic acids

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working photosensitive resin **composition** for manufacture of display device)

IT 108-31-6DP, Maleic anhydride, reaction products with polyamic acid

123-30-8DP, 4-Aminophenol, reaction products with polyamic acid

591-27-5DP, 3-Aminophenol, reaction products with polyamic acid

14235-81-5DP, 4-Ethynylaniline, reaction products with polyamic

acid 32155-33-2P 38595-90-3P 137902-98-8P

**236095-20-8DP**, reaction products with maleic anhydride

389085-32-9DP, reaction products with aminophenol 431041-52-0DP,

reaction products with polyamic acid 630402-12-9DP, reaction

products with aminophenol 690995-26-7DP, reaction products with

ethynylaniline **690995-28-9DP**, reaction products with aminophenol

690995-30-3DP, reaction products with aminophenol **690995-32-5DP**,

reaction products with active ester 690995-34-7DP, reaction products with aminophenol

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working **photosensitive** resin **composition** for manufacture of display device)

IT 147-14-8, C.I. Pigment Blue 15 980-26-7, C.I. Pigment Red 122

1313-13-9, Manganese dioxide 1317-34-6, Manganese trioxide 1317-35-7,

Manganese tetraoxide 1328-53-6, C.I. Pigment Green 7 4051-63-2, C.I.

Pigment Red 177 4197-25-5, Neptune Black X 60 12226-78-7, Orasol Blue

GN 51473-56-4, Vinylmethoxysilane 618447-63-5, Valifast Blue 2620

690997-85-4

RL: TEM (Technical or engineered material use); USES (Uses)

(pos.-working photosensitive resin **composition** for manufacture of display device)

IT **236095-20-8DP**, reaction products with maleic anhydride

**690995-28-9DP**, reaction products with aminophenol

**690995-32-5DP**, reaction products with active ester

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working **photosensitive** resin **composition** for manufacture of display device)

RN 236095-20-8 HCAPLUS

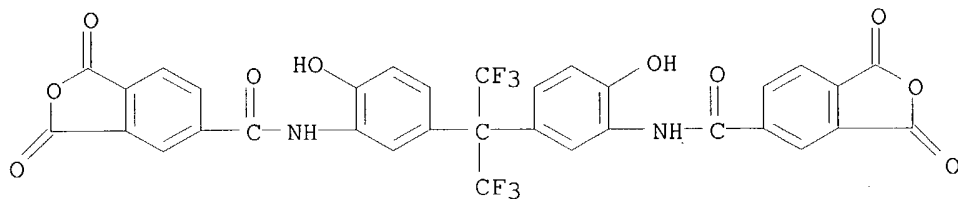
CN 5-Isobenzofurancarboxamide, N,N'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(6-hydroxy-3,1-phenylene)]bis[1,3-dihydro-1,3-dioxo-, polymer with 4,4'-oxybis[benzenamine] and 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediy)bis[1-propanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 223255-30-9

CMF C33 H16 F6 N2 O10

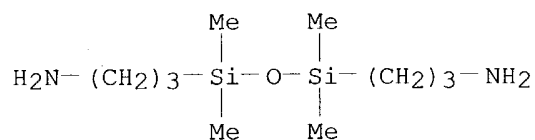




CM 2

CRN 2469-55-8

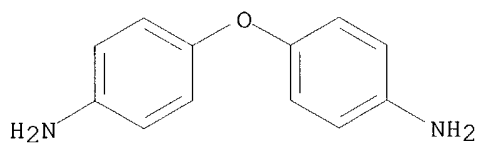
CMF C10 H28 N2 O Si2



CM 3

CRN 101-80-4

CMF C12 H12 N2 O



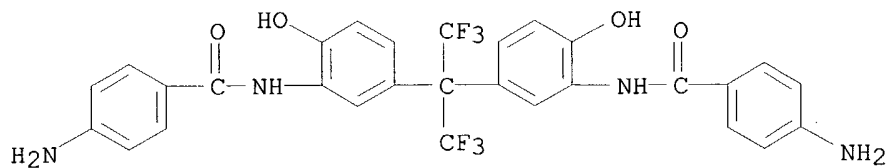
RN 690995-28-9 HCAPLUS

CN INDEX NAME NOT YET ASSIGNED

CM 1

CRN 129197-38-2

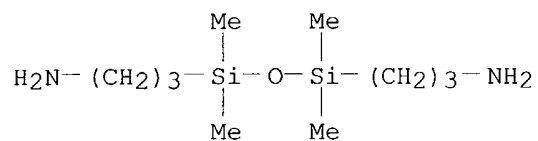
CMF C29 H22 F6 N4 O4



CM 2

CRN 2469-55-8

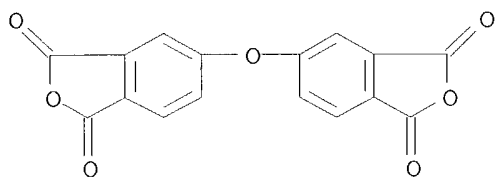
CMF C10 H28 N2 O Si2



CM 3

CRN 1823-59-2

CMF C16 H6 O7



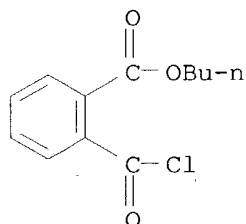
RN 690995-32-5 HCAPLUS  
CN INDEX NAME NOT YET ASSIGNED

CM 1

CRN 251650-61-0

CMF C24 H24 Cl2 O7

CCI IDS

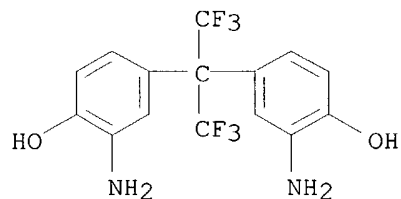


1/2 ( D1-O-D1 )

CM 2

CRN 83558-87-6

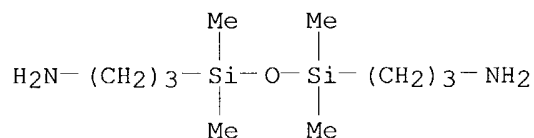
CMF C15 H12 F6 N2 O2



CM 3

CRN 2469-55-8

CMF C10 H28 N2 O Si2



L77 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:351947 HCAPLUS

DN 140:383097

TI Positively-working radiation resist resin **composition** containing substituted imidazole

IN Yokoyama, Kenichi; Miyajima, Fumihisa; Nagai, Tomoki; Yoneda, Eiji

PA JSR Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 40 pp.

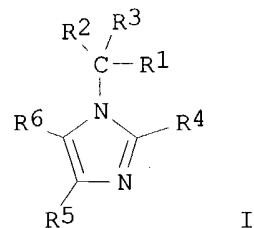
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004133055	A2	20040430	JP 2002-295260	20021008
PRAI	JP 2002-295260		20021008		
GI					



AB The **composition** contains (A) N-substituted imidazole I [R1-R6 = H, cyano, (substituted) C1-20 alkyl, (substituted) C3-20 alicyclic group, C2-20 alkenyl, (substituted) aryl, (substituted) heteroaryl; 2 of R1-R6 may form heterocyclic group or form dimer], (B) a radiation-

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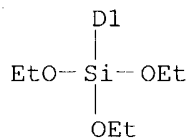
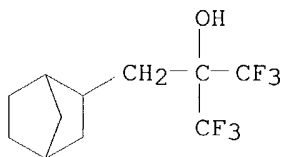
**sensitive acid**-generating agent, and (C) (c1) a resin insol. or difficult to be **soluble** in alkali protected by an **acid-sensitive** dissociable group, which is converted to alkali **soluble** in removal of the dissociable group or (c2) an alkali-**soluble** resin and an alkali dissoln. regulator. The storage-stable **composition** shows high resolution

- IC ICM G03F007-004  
ICS G03F007-039; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38
- IT Polysiloxanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(pos.-working radiation resist resin **composition** containing substituted imidazole with storage stability)
- IT Resists  
(radiation-sensitive; pos.-working radiation resist resin **compn** containing substituted imidazole with storage stability)
- IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 84563-54-2, Bis[4-(tert-butyl)phenyl]iodonium trifluoromethanesulfonate 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane 181425-38-7 209482-18-8  
RL: CAT (Catalyst use); USES (Uses)  
(acid-generating agent; pos.-working radiation resist resin **composition** containing substituted imidazole with storage stability)
- IT 4238-71-5, 1-Benzylimidazole 13750-62-4, 1-Benzyl-2-methylimidazole  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(pos.-working radiation resist resin **composition** containing substituted imidazole prepared from)
- IT 693-98-1, 2-Methylimidazole 4704-77-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(pos.-working radiation resist resin **composition** containing substituted imidazole prepared from)
- IT 683786-05-2P 683786-06-3P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working radiation resist resin **composition** containing substituted imidazole with storage stability)
- IT 109-92-2DP, Ethyl vinyl ether, reaction product with polyhydroxystyrene 24424-99-5DP, Di(tert-butyl) dicarbonate, reaction product with polyhydroxystyrene 24979-70-2DP, Poly(p-hydroxystyrene), reaction product with di-Bu dicarbonate 123589-22-0DP, p-(tert-Butoxy)styrene-p-hydroxystyrene copolymer, reaction product with Et vinyl ether 129674-22-2DP, p-(tert-Butoxy)carbonyloxystyrene-p-hydroxystyrene copolymer, reaction product with Et vinyl ether 221549-67-3P 288622-95-7P 330576-44-8P 340964-24-1P 406198-64-9P  
**479628-09-6P**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working radiation resist resin **composition** containing substituted imidazole with storage stability)
- IT **479628-09-6P**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working radiation resist resin **composition** containing substituted imidazole with storage stability)
- RN 479628-09-6 HCAPLUS
- CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with triethoxymethylsilane and 5(or

6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

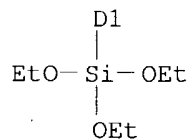
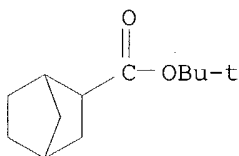
CM 1

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



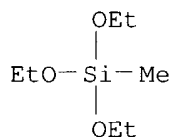
CM 2

CRN 365546-63-0  
CMF C18 H34 O5 Si  
CCI IDS



CM 3

CRN 2031-67-6  
CMF C7 H18 O3 Si



L77 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:330252 HCAPLUS

DN 140:347515

TI Silicon compounds, polysiloxanes from them, and radiation-sensitive resin **compositions** containing the polysiloxanes

IN Chiba, Takashi; Iwasawa, Haruo; Hayashi, Akihiro; Shimokawa, Tsutomu

PA JSR Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 59 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004123793	A2	20040422	JP 2002-285855	20020930
PRAI	JP 2002-285855		20020930		

AB R1SiR12X1C(CHmF3-m)(CHnF3-n)OSiR23 [I; X1 = (un)substituted C2-20 hydrocarbylene; R1, R2 = H, halo, C1-20 alkoxy, cycloalkoxy, C1-20 (halo)hydrocarbyl; 2 or 3 of R1 and R2 = halo, C1-20 alkoxy, cycloalkoxy; m, n = 0-3; n + m < 6] are claimed. Polysiloxanes with Mn 500-1,000,000 (based on polystyrene stds., measured by GPC) manufactured by polymerizing I are also claimed. The radiation-sensitive resin compns. contain (a) among the polysiloxanes, those which are insol. or slightly **soluble** in alkalis, bear acid-dissociable group and become alkali-**soluble** after the groups are dissociated and (B) radiation-**sensitive acid** generators. The compns. show high transparency to ≤193-nm light especially 157-nm F2 excimer laser, high resolution, and good dry-etching resistance.

IC ICM C08G077-50

ICS C07F007-18; G03F007-039; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 37

ST silyl ether contg silsesquioxane alkali **sol** resin **photoresist**; norbornene trialkoxysilyl polymer fluorine excimer laser sensitive resist; polysiloxane acid dissociable group contg **photoresist**

IT **Photoresists**  
(silyl ether group-containing compds. and polysiloxanes therefrom for resists with high transmittance to ≤193-nm light and good dry etching resistance)

IT **681007-59-0P 681007-60-3P 681007-61-4P 681007-62-5P**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silyl ether group-containing compds. and polysiloxanes therefrom for resists with high transmittance to ≤193-nm light and good dry etching resistance)

IT **681007-59-0P 681007-61-4P**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(silyl ether group-containing compds. and polysiloxanes therefrom for resists with high transmittance to  $\leq 193$ -nm light and good dry etching resistance)

RN 681007-59-0 HCAPLUS

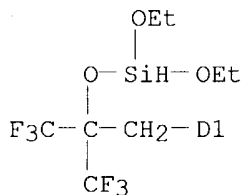
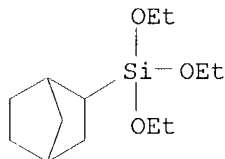
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with [5(or 6)-[2-[(diethoxysilyl)oxy]-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane, 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and triethoxy[5,5,6(or 5,6,6)-trifluoro-6(or 5)-(heptafluoropropoxy)bicyclo[2.2.1]hept-2-yl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 681007-58-9

CMF C21 H38 F6 O6 Si2

CCI IDS

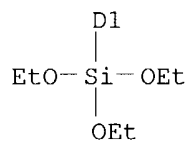
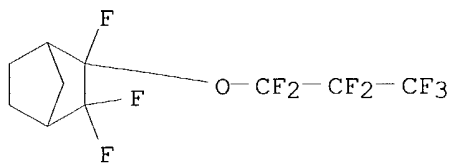


CM 2

CRN 677308-22-4

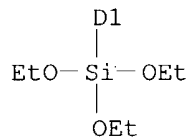
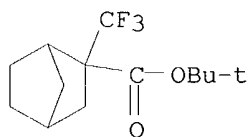
CMF C16 H22 F10 O4 Si

CCI IDS



CM 3

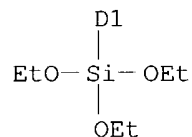
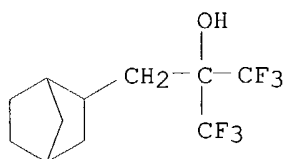
CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 4

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS

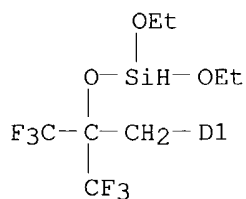
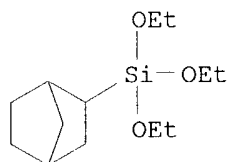




RN 681007-61-4 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with [5(or 6)-[2-[(diethoxysilyl)oxy]-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI)  
 (CA INDEX NAME)

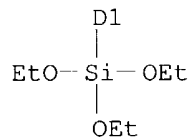
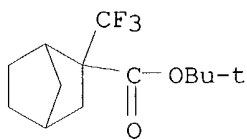
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CRN 681007-58-9  
 CMF C21 H38 F6 O6 Si2  
 CCI IDS



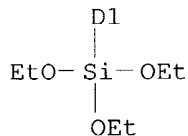
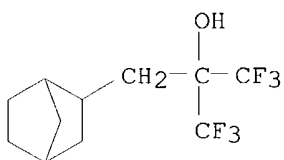
CM 2

CRN 474559-06-3  
 CMF C19 H33 F3 O5 Si  
 CCI IDS



CM 3

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



L77 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:287063 HCAPLUS  
DN 140:329526  
TI Fluorine-containing norbornenes, their silicon-containing derivatives,  
polysiloxanes with fluorine-containing norbornane backbones, and  
radiation-sensitive **compositions** for resists  
IN Chiba, Takashi; Shimokawa, Tsutomu; Hayashi, Akihiro  
PA JSR Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 81 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004107277	A2	20040408	JP 2002-273899	20020919
PRAI	JP 2002-273899		20020919		
OS	MARPAT 140:329526				

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The F-containing norbornenes are represented by the general formula I (Z1 = H, F, C1-4 monovalent fluorinated hydrocarbyl; not all of Z1 is H; R1 = CH2OH, AR'; A = O, CF2; R' = C1-10 monovalent hydrocarbyl which may be halogenated or substituted with OH; n = 0, 1). The Si-containing derivs. of I are represented by the general formulas II and III [X1 = H, C1-20 (halogenated) monovalent hydrocarbyl, halo, amino; Y1 = C1-20 (halogenated) monovalent hydrocarbyl; X2 = H, C1-20 (halogenated) monovalent hydrocarbyl, halo, amino, C1-20 alkoxyl; Z1 = same as I; x = 0-2 integer, y = 3-5 integer; n = 0, 1]. The polysiloxanes prepared from II and/or III, with polystyrene-based Mw 500-1,000,000 by GPC, is also claimed. The radiation-sensitive resin compns. contain, (A) among the polysiloxanes, those which are insol. or slightly **soluble** in alkalis, bear acid-dissociable group and become alkali-**soluble** after the groups are dissociated and (B) radiation-**sensitive acid** generators.

IC ICM C07C043-192  
ICS C07C043-196; C07F007-12; C07F007-18; C08G077-14; C08G077-24;  
G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 24, 37

IT **Photoresists**

(UV; F-containing norbornenes, their Si-containing derivs., and polysiloxanes

with F-containing norbornane backbones for resists with high transmittance to  $\leq 200$ -nm radiation)

IT **677308-25-7P 677308-26-8P 677308-28-0P**  
**677308-30-4P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(F-containing norbornenes, their Si-containing derivs., and polysiloxanes

with

F-containing norbornane backbones for resists with high transmittance to  $\leq 200$ -nm radiation)

IT **677308-25-7P 677308-26-8P 677308-28-0P**  
**677308-30-4P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(F-containing norbornenes, their Si-containing derivs., and polysiloxanes

with

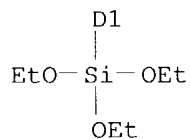
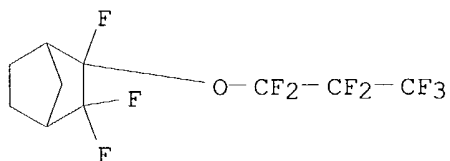
F-containing norbornane backbones for resists with high transmittance to  $\leq 200$ -nm radiation)

RN 677308-25-7 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and triethoxy[5,5,6(or 6,6,5)-trifluoro-6(or 5)-(heptafluoropropoxy)bicyclo[2.2.1]hept-2-yl]silane (9CI) (CA INDEX NAME)

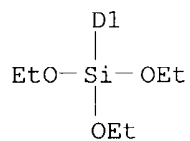
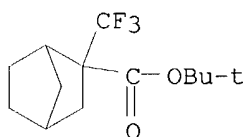
CM 1

CRN 677308-22-4  
CMF C16 H22 F10 O4 Si  
CCI IDS



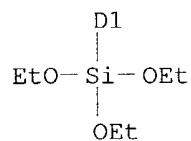
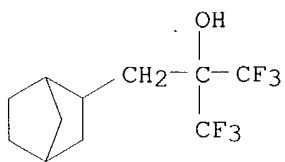
CM 2

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 3

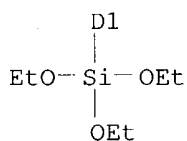
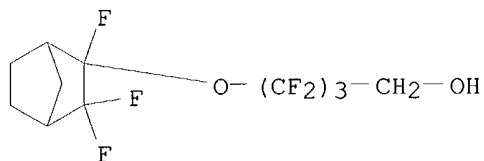
CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



RN 677308-26-8 HCAPLUS  
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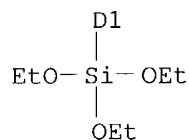
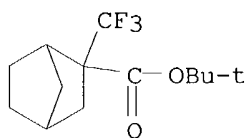
CM 1

CRN 677308-23-5  
 CMF C17 H25 F9 O5 Si  
 CCI IDS



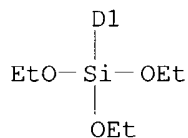
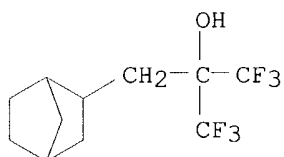
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CRN 474559-06-3  
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 CCI IDS



CM 3

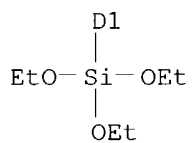
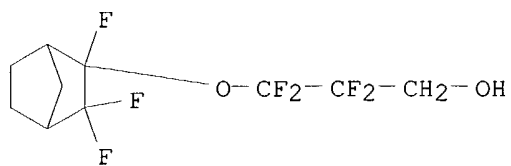
CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



RN 677308-28-0 HCAPLUS  
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CM 1

CRN 677308-27-9  
CMF C16 H25 F7 O5 Si  
CCI IDS

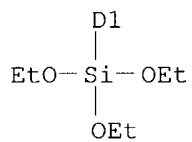
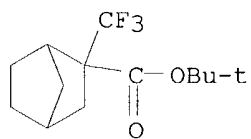


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CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS

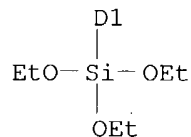
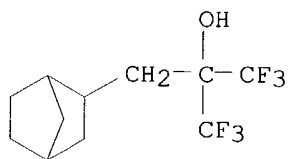


CM 3

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

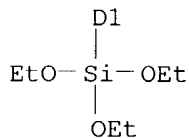
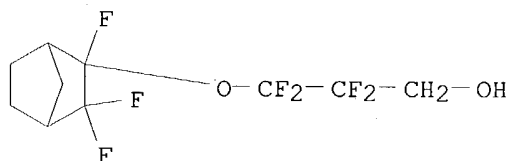
CCI IDS



RN 677308-30-4 HCAPLUS  
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CM 1

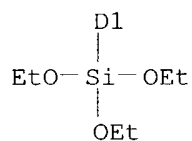
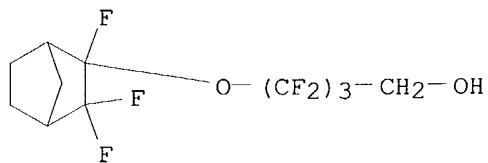
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 CMF C16 H25 F7 O5 Si  
 CCI IDS



CM 2

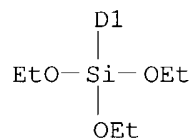
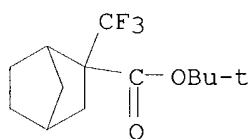
CRN 677308-23-5  
 CMF C17 H25 F9 O5 Si  
 CCI IDS





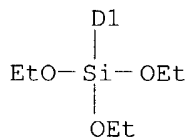
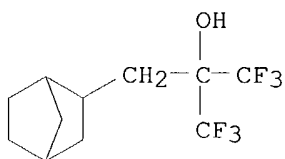
CM 3

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 4

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



L77 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:219206 HCAPLUS  
 DN 140:261407  
 TI Positively photosensitive polymer **compositions** and semiconductor devices  
 IN Makabe, Hiroaki; Banba, Toshio; Hirano, Takashi  
 PA Sumitomo Bakelite Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 38 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004085772	A2	20040318	JP 2002-244964	20020826
PRAI	JP 2002-187264	A	20020627		

AB The compns. comprise (A) alkali-**soluble** polymers 100, (B) photosensitive diazoquinone compds. 1-50, and (C) phenols having R<sub>1</sub>p(HO)qC<sub>6</sub>H<sub>5</sub>-p-qOR<sub>2</sub> (R<sub>1</sub> = halo, alkyl, alkoxy, cycloalkyl; R<sub>2</sub> = single bond, C<sub>1</sub>-20 organic group; p = 0-3; q = 1-3) 1-30 parts. The devices are obtained by applying the compns. to give thickness 0.1-30-μm after dehydration ring closure by heating, prebaking, exposing, developing, and heating. The compns. show high sensitivity and high resolution

IC ICM G03F007-004  
 ICS G03F007-022; G03F007-037; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 76

ST pos **photoresist** phenol additive sensitivity improvement;  
 polyamide alkali **soluble** pos **photoresist** resolu;  
 semiconductor pos **photoresist** phenol additive sensitivity

IT Positive **photoresists**  
 Semiconductor device fabrication  
 (high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Polyesters, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-, fluorine-containing; high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Polysiloxanes, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polyester-, fluorine-containing; high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Fluoropolymers, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polyester-, high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Fluoropolymers, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polyester-polysiloxane-, high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Polyesters, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polysiloxane-, fluorine-containing; high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Polyamides, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-, fluorine-containing; high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT Polyamides, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-polysiloxane-, fluorine-containing; high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT 225931-78-2P, Hexafluoro-2,2-bis(3-amino-4-hydroxyphenyl)propane-isophthalic acid-5-norbornene-2,3-dicarboxylic anhydride-terephthalic acid copolymer 349081-00-1P 671212-95-6P **671212-96-7P**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT 61166-00-5 126716-90-3  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

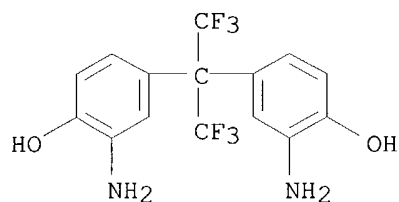
IT 137902-98-8  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

IT **671212-96-7P**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (high-sensitivity pos. **photoresist** polymer compns. for semiconductor fabrication)

RN 671212-96-7 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, 3a,4,7,7a-tetrahydro-4,7-methanoisobenzofuran-1,3-dione, 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] and 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[2-aminophenol] (9CI) (CA INDEX NAME)

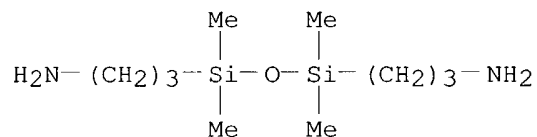
CM 1

CRN 83558-87-6  
CMF C15 H12 F6 N2 O2



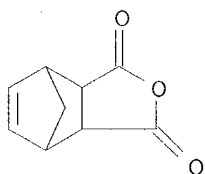
CM 2

CRN 2469-55-8  
CMF C10 H28 N2 O Si2



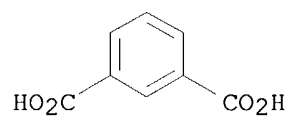
CM 3

CRN 826-62-0  
CMF C9 H8 O3



CM 4

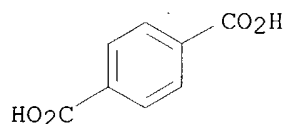
CRN 121-91-5  
CMF C8 H6 O4



CM 5

CRN 100-21-0

CMF C8 H6 O4



L77 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:693523 HCAPLUS

DN 139:215959

TI Aqueous printing inks with high stability and water **resistance**,  
ink cartridges, and ink-jet printers therewith

IN Arase, Hidekazu; Soga, Masamori

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003246947	A2	20030905	JP 2002-50155	20020226
PRAI	JP 2002-50155		20020226		

AB The aqueous inks comprise (A) colorants, (B) moisturizers, (C) water-soluble substances capable of condensation polymerization without water, and optionally (D) wetting agents. The water-soluble substances C (e.g., hydrolyzable silanes or their partially hydrolyzates) have CO, amido, SO, SO<sub>2</sub>, phosphoramido, or CN groups as proton scavengers for stability of A-C complex at a wide pH range. Thus, an aqueous ink containing Acid Black 2, glycerin, a reaction product of 1-amino-5-trimethoxysilyl-3-pentanone and (MeO)<sub>4</sub>Si, and diethylene glycol monobutyl ether showed no precipitation at pH 10.5, good discharging from an ink-jet head, and high water **resistance** when printed.

IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

ST aq jet printing ink stability water **resistance**; carbonyl  
silsesquioxane silicate waterproofing agent jet ink stability; waterproof  
jet ink hydrolyzable silane proton trapping carbonyl group

IT Ink-jet printers

Waterproofing agents

Wetting agents

(aqueous jet-printing inks with high stability and good water  
**resistance**)

IT Containers

(cartridges, ink; aqueous jet-printing inks with high stability and good  
water **resistance**)

IT Water-**resistant** materials

(jet-printing inks, aqueous; aqueous jet-printing inks with high stability  
and good water **resistance**)

IT Inks

(jet-printing, anticlogging, storage-stable; aqueous jet-printing inks with  
high stability and good water **resistance**)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IT Inks  
(jet-printing, water-**resistant**, aqueous; aqueous jet-printing inks with high stability and good water **resistance**)

IT Inks  
(jet-printing, water-thinned, waterproof; aqueous jet-printing inks with high stability and good water **resistance**)

IT Silsesquioxanes  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silicate-, CO, amido, SO, SO<sub>2</sub>, phosphoramido, or CN group-containing, waterproofing agents; aqueous jet-printing inks with high stability and good water **resistance**)

IT Silicates, uses  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silsesquioxane-, CO, amido, SO, SO<sub>2</sub>, phosphoramido, or CN group-containing, waterproofing agents; aqueous jet-printing inks with high stability and good water **resistance**)

IT 587876-18-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(aqueous jet-printing inks with high stability and good water **resistance**)

IT 2487-90-3, Trimethoxysilane 588699-57-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(in preparation of carbonyl-containing trimethoxysilane; aqueous jet-printing inks with high stability and good water **resistance**)

IT 587876-19-5P 587876-22-0P 587876-24-2P  
587876-26-4P 587876-28-6P 587876-30-0P 587876-32-2P  
587876-34-4P 587876-36-6P 587876-38-8P  
587876-40-2P 587876-43-5P 587876-45-7P  
587876-47-9P 587876-49-1P 587876-51-5P  
587876-53-7P 587876-55-9P 587876-57-1P  
587876-59-3P 587876-61-7P 587876-63-9P 587876-65-1P  
587876-67-3P 587876-69-5P 587876-71-9P 587876-73-1P  
587876-75-3P 587876-77-5P 587876-81-1P  
587876-83-3P 587876-85-5P 587876-87-7P  
587876-89-9P 587876-91-3P 587876-93-5P  
587876-95-7P 587876-97-9P 587876-99-1P  
587877-01-8P 587877-03-0P 587877-05-2P  
587877-07-4P 587877-09-6P 587877-11-0P  
587877-13-2P 587877-15-4P 587877-17-6P  
587877-19-8P 587877-21-2P 587877-23-4P  
587877-25-6P 587877-27-8P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(waterproofing agents; aqueous jet-printing inks with high stability and good water **resistance**)

IT 112-34-5, Diethylene glycol monobutyl ether  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(wetting agents; aqueous jet-printing inks with high stability and good water **resistance**)

IT 587876-19-5P 587876-22-0P 587876-24-2P  
587876-26-4P 587876-28-6P 587876-34-4P  
587876-36-6P 587876-38-8P 587876-40-2P  
587876-45-7P 587876-47-9P 587876-49-1P  
587876-51-5P 587876-53-7P 587876-55-9P

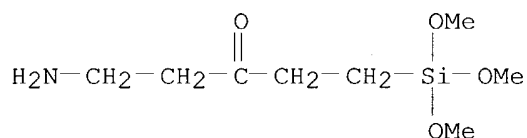
587876-57-1P 587876-59-3P 587876-61-7P  
 587876-73-1P 587876-75-3P 587876-77-5P  
 587876-83-3P 587876-85-5P 587876-87-7P  
 587876-89-9P 587876-91-3P 587876-93-5P  
 587876-95-7P 587876-97-9P 587876-99-1P  
 587877-01-8P 587877-03-0P 587877-05-2P  
 587877-07-4P 587877-09-6P 587877-11-0P  
 587877-13-2P 587877-15-4P 587877-17-6P  
 587877-19-8P 587877-21-2P 587877-23-4P  
 587877-25-6P 587877-27-8P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (waterproofing agents; aqueous jet-printing inks with high stability and  
 good water **resistance**)

RN 587876-19-5 HCAPLUS  
 CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 1-amino-5-(trimethoxysilyl)-3-pentanone (9CI) (CA INDEX NAME)

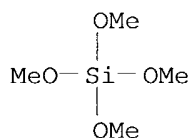
CM 1

CRN 587876-18-4  
 CMF C8 H19 N O4 Si



CM 2

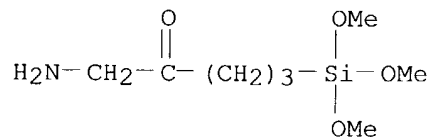
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587876-22-0 HCAPLUS  
 CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 1-amino-5-(trimethoxysilyl)-2-pentanone (9CI) (CA INDEX NAME)

CM 1

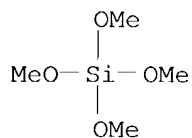
CRN 587876-21-9  
 CMF C8 H19 N O4 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



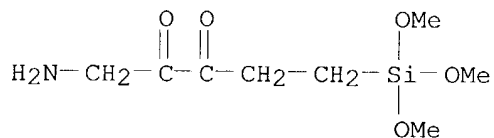
RN 587876-24-2 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-5-(trimethoxysilyl)-2,3-pentanedione (9CI) (CA INDEX NAME)

CM 1

CRN 587876-23-1

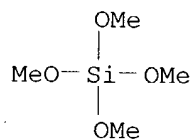
CMF C8 H17 N O5 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



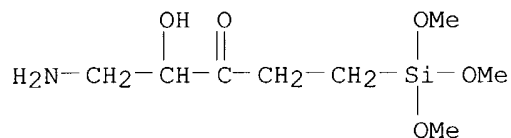
RN 587876-26-4 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-2-hydroxy-5-(trimethoxysilyl)-3-pentanone (9CI) (CA INDEX NAME)

CM 1

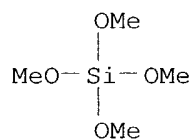


CRN 587876-25-3  
CMF C8 H19 N O5 Si



CM 2

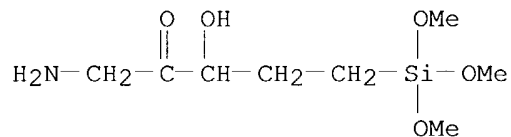
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-28-6 HCAPLUS  
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
1-amino-3-hydroxy-5-(trimethoxysilyl)-2-pentanone (9CI) (CA INDEX NAME)

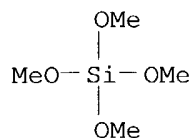
CM 1

CRN 587876-27-5  
CMF C8 H19 N O5 Si



CM 2

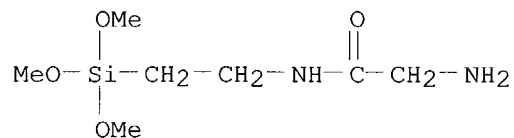
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-34-4 HCAPLUS  
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
2-amino-N-[2-(trimethoxysilyl)ethyl]acetamide (9CI) (CA INDEX NAME)

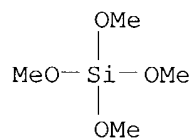
CM 1

CRN 587876-33-3  
CMF C7 H18 N2 O4 Si



CM 2

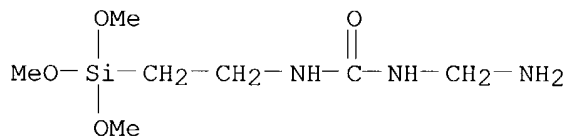
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-36-6 HCAPLUS  
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
N-(aminomethyl)-N'-[2-(trimethoxysilyl)ethyl]urea (9CI) (CA INDEX NAME)

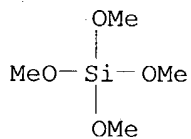
CM 1

CRN 587876-35-5  
CMF C7 H19 N3 O4 Si



CM 2

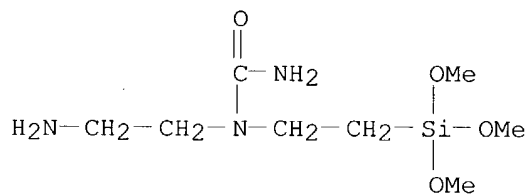
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-38-8 HCAPLUS  
 CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 N-(2-aminoethyl)-N-[2-(trimethoxysilyl)ethyl]urea (9CI) (CA INDEX NAME)

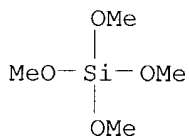
CM 1

CRN 587876-37-7  
 CMF C8 H21 N3 O4 Si



CM 2

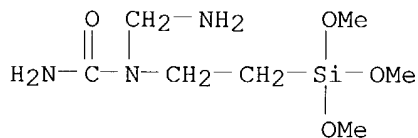
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587876-40-2 HCAPLUS  
 CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 N-(aminomethyl)-N-[2-(trimethoxysilyl)ethyl]urea (9CI) (CA INDEX NAME)

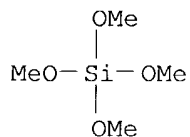
CM 1

CRN 587876-39-9  
 CMF C7 H19 N3 O4 Si



CM 2

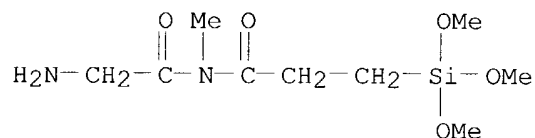
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587876-45-7 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 N-(aminoacetyl)-N-methyl-3-(trimethoxysilyl)propanamide (9CI) (CA INDEX  
 NAME)

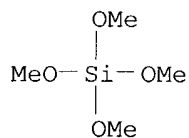
CM 1

CRN 587876-44-6  
 CMF C9 H20 N2 O5 Si



CM 2

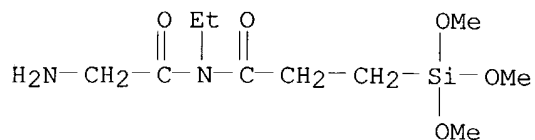
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587876-47-9 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 N-(aminoacetyl)-N-ethyl-3-(trimethoxysilyl)propanamide (9CI) (CA INDEX  
 NAME)

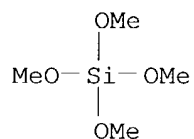
CM 1

CRN 587876-46-8  
 CMF C10 H22 N2 O5 Si



CM 2

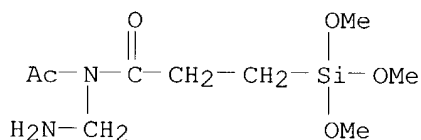
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-49-1 HCAPLUS  
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
N-acetyl-N-(aminomethyl)-3-(trimethoxysilyl)propanamide (9CI) (CA INDEX  
NAME)

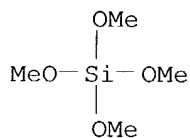
CM 1

CRN 587876-48-0  
CMF C9 H20 N2 O5 Si



CM 2

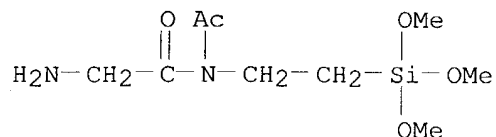
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-51-5 HCAPLUS  
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
N-acetyl-2-amino-N-[2-(trimethoxysilyl)ethyl]acetamide (9CI) (CA INDEX  
NAME)

CM 1

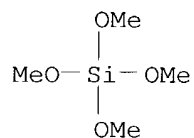
CRN 587876-50-4  
CMF C9 H20 N2 O5 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



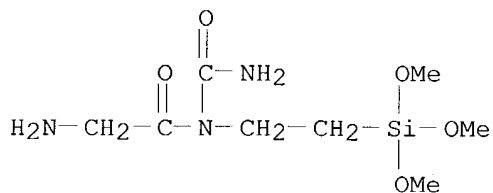
RN 587876-53-7 HCAPLUS

CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
2-amino-N-(aminocarbonyl)-N-[2-(trimethoxysilyl)ethyl]acetamide (9CI) (CA  
INDEX NAME)

CM 1

CRN 587876-52-6

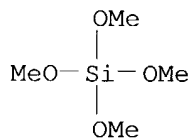
CMF C8 H19 N3 O5 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587876-55-9 HCAPLUS

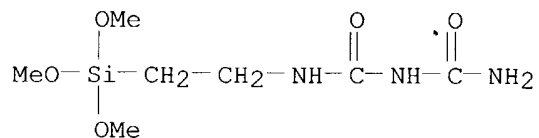
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
3,3-dimethoxy-7-oxo-2-oxa-6,8-diaza-3-silanonan-9-amide (9CI) (CA INDEX

NAME)

CM 1

CRN 587876-54-8

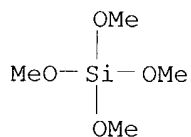
CMF C7 H17 N3 O5 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



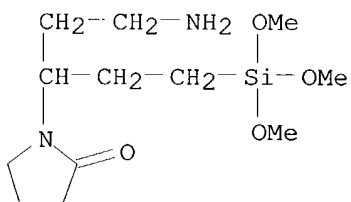
RN 587876-57-1 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-[1-(2-aminoethyl)-3-(trimethoxysilyl)propyl]-2-pyrrolidinone (9CI) (CA  
INDEX NAME)

CM 1

CRN 587876-56-0

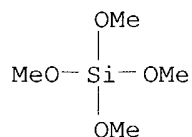
CMF C12 H26 N2 O4 Si



CM 2

CRN 681-84-5

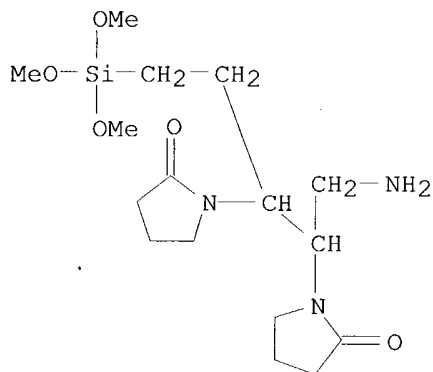
CMF C4 H12 O4 Si



RN 587876-59-3 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 1,1'-[1-(aminomethyl)-2-[2-(trimethoxysilyl)ethyl]-1,2-ethanediyl]bis[2-  
 pyrrolidinone] (9CI) (CA INDEX NAME)

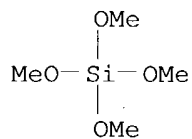
CM 1

CRN 587876-58-2  
 CMF C16 H31 N3 O5 Si



CM 2

CRN 681-84-5  
 CMF C4 H12 O4 Si

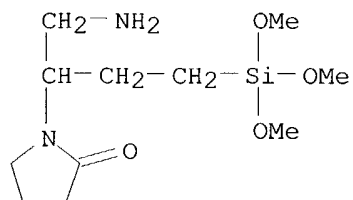


RN 587876-61-7 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 1-[1-(aminomethyl)-3-(trimethoxysilyl)propyl]-2-pyrrolidinone (9CI) (CA  
 INDEX NAME)

CM 1

CRN 587876-60-6  
 CMF C11 H24 N2 O4 Si

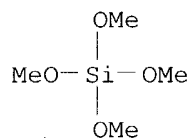




CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



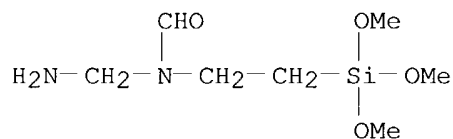
RN 587876-73-1 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
N-(aminomethyl)-N-[2-(trimethoxysilyl)ethyl]formamide (9CI) (CA INDEX  
NAME)

CM 1

CRN 587876-72-0

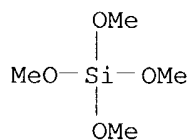
CMF C7 H18 N2 O4 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587876-75-3 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
N-(2-aminoethyl)-N-[2-(trimethoxysilyl)ethyl]acetamide (9CI) (CA INDEX  
NAME)

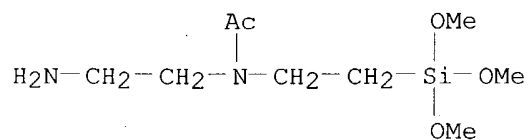
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

NAME)

CM 1

CRN 587876-74-2

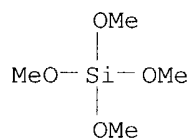
CMF C9 H22 N2 O4 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



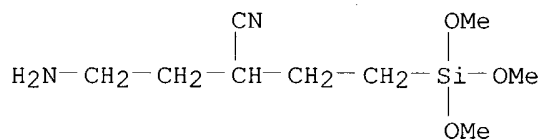
RN 587876-77-5 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
2-(2-aminoethyl)-4-(trimethoxysilyl)butanenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 587876-76-4

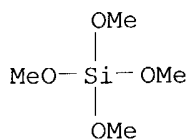
CMF C9 H20 N2 O3 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si

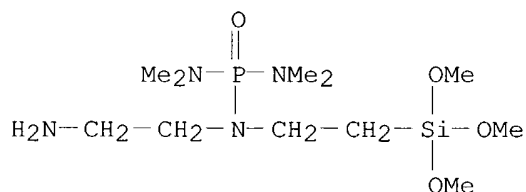


KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

RN 587876-83-3 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 N-(2-aminoethyl)-N',N',N'',N''-tetramethyl-N-[2-  
 (trimethoxysilyl)ethyl]phosphoric triamide (9CI) (CA INDEX NAME)

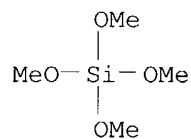
CM 1

CRN 587876-82-2  
 CMF C11 H31 N4 O4 P Si



CM 2

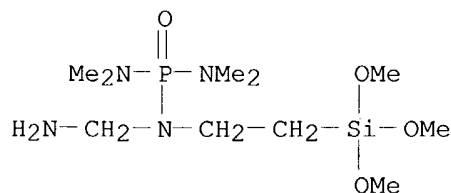
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587876-85-5 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 N-(aminomethyl)-N',N',N'',N''-tetramethyl-N-[2-  
 (trimethoxysilyl)ethyl]phosphoric triamide (9CI) (CA INDEX NAME)

CM 1

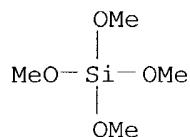
CRN 587876-84-4  
 CMF C10 H29 N4 O4 P Si



CM 2

CRN 681-84-5

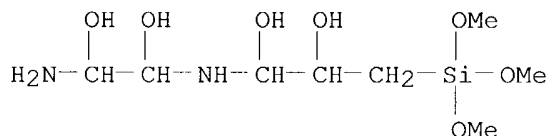
CMF C4 H12 O4 Si



RN 587876-87-7 HCAPLUS  
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
1-[(2-amino-1,2-dihydroxyethyl)amino]-3-(trimethoxysilyl)-1,2-propanediol  
(9CI) (CA INDEX NAME)

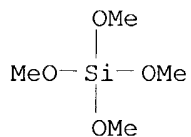
CM 1

CRN 587876-86-6  
CMF C8 H22 N2 O7 Si



CM 2

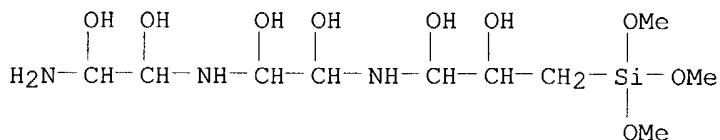
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587876-89-9 HCAPLUS  
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
12-amino-3,3-dimethoxy-2-oxa-7,10-diaza-3-siladodecane-5,6,8,9,11,12-hexol  
(9CI) (CA INDEX NAME)

CM 1

CRN 587876-88-8  
CMF C10 H27 N3 O9 Si

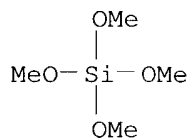


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CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



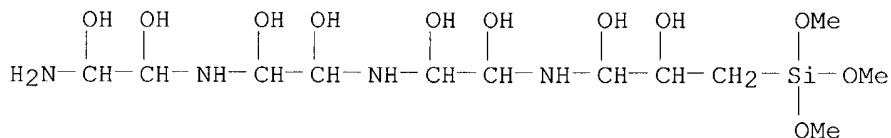
RN 587876-91-3 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
15-amino-3,3-dimethoxy-2-oxa-7,10,13-triaza-3-silapentadecane-  
5,6,8,9,11,12,14,15-octol (9CI) (CA INDEX NAME)

CM 1

CRN 587876-90-2

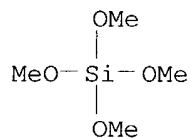
CMF C12 H32 N4 O11 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587876-93-5 HCAPLUS

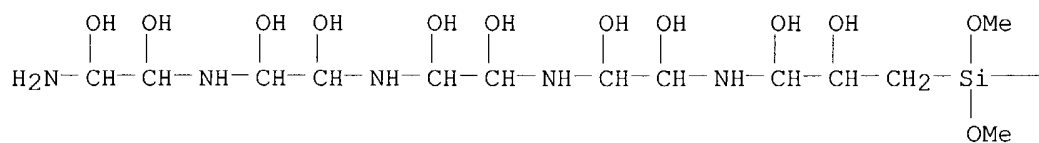
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
18-amino-3,3-dimethoxy-2-oxa-7,10,13,16-tetraaza-3-silaooctadecane-  
5,6,8,9,11,12,14,15,17,18-decol (9CI) (CA INDEX NAME)

CM 1

CRN 587876-92-4

CMF C14 H37 N5 O13 Si

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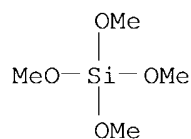
PAGE 1-B

— OMe

CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



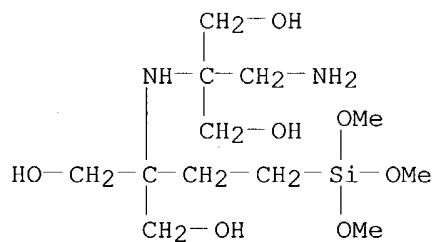
RN 587876-95-7 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
2-[[2-amino-1,1-bis(hydroxymethyl)ethyl]amino]-2-[2-(trimethoxysilyl)ethyl]-1,3-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 587876-94-6

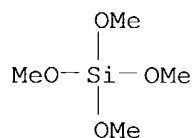
CMF C12 H30 N2 O7 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



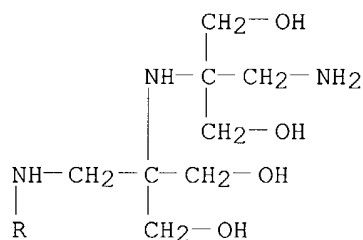
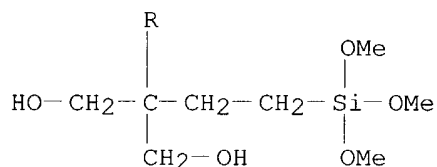
RN 587876-97-9 HCAPLUS

CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
2-[[2-amino-1,1-bis(hydroxymethyl)ethyl]amino]-2-[[[1,1-bis(hydroxymethyl)-  
3-(trimethoxysilyl)propyl]amino]methyl]-1,3-propanediol (9CI) (CA INDEX  
NAME)

CM 1

CRN 587876-96-8

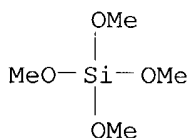
CMF C16 H39 N3 O9 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587876-99-1 HCAPLUS

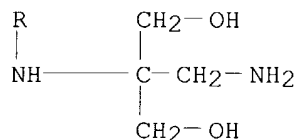
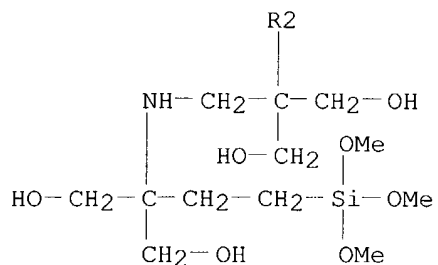
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
2-[[2-[[2-amino-1,1-bis(hydroxymethyl)ethyl]amino]-3-hydroxy-2-  
(hydroxymethyl)propyl]amino]-2-[[[1,1-bis(hydroxymethyl)-3-  
(trimethoxysilyl)propyl]amino]methyl]-1,3-propanediol (9CI) (CA INDEX  
NAME)

CM 1

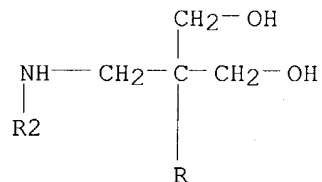
CRN 587876-98-0

CMF C20 H48 N4 O11 Si

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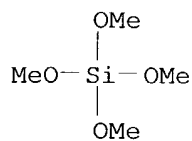
PAGE 2-A



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587877-01-8 HCAPLUS

CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 2-(aminomethyl)-2,4,4,7,7,10,10,13-octakis(hydroxymethyl)-13-[2-  
 (trimethoxysilyl)ethyl]-3,6,9,12-tetraazatetradecane-1,14-diol (9CI) (CA  
 INDEX NAME)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

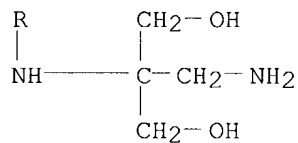
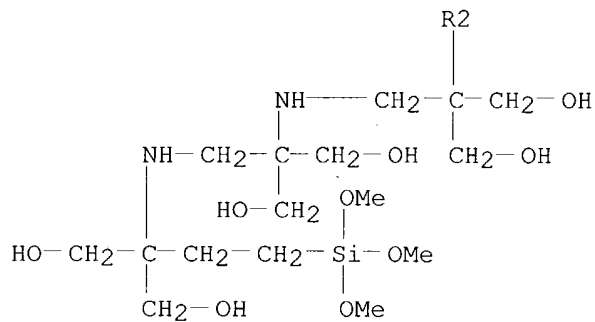


CM 1

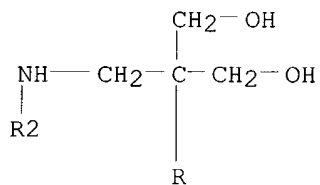
CRN 587877-00-7

CMF C24 H57 N5 O13 Si

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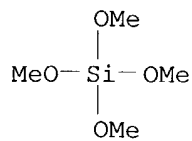
PAGE 2-A



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587877-03-0 HCAPLUS

CN Silicic acid (H4SiO4), tetramethyl ester, polymer with

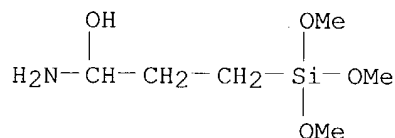
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

1-amino-3-(trimethoxysilyl)-1-propanol (9CI) (CA INDEX NAME)

CM . 1

CRN 587877-02-9

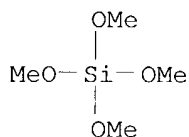
CMF C6 H17 N O4 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



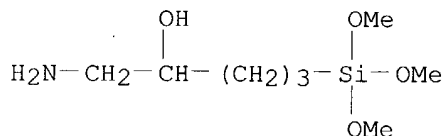
RN 587877-05-2 HCAPLUS

CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
1-amino-5-(trimethoxysilyl)-2-pentanol (9CI) (CA INDEX NAME)

CM 1

CRN 587877-04-1

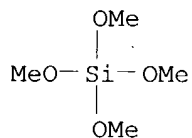
CMF C8 H21 N O4 Si



CM 2

CRN 681-84-5

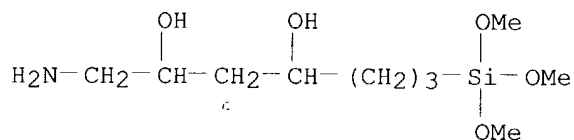
CMF C4 H12 O4 Si



RN 587877-07-4 HCAPLUS  
 CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 1-amino-7-(trimethoxysilyl)-2,4-heptanediol (9CI) (CA INDEX NAME)

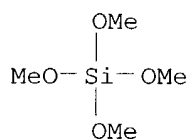
CM 1

CRN 587877-06-3  
 CMF C10 H25 N O5 Si



CM 2

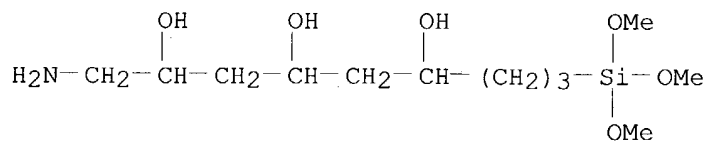
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587877-09-6 HCAPLUS  
 CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
 1-amino-9-(trimethoxysilyl)-2,4,6-nonanetriol (9CI) (CA INDEX NAME)

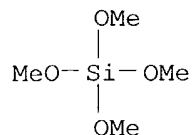
CM 1

CRN 587877-08-5  
 CMF C12 H29 N O6 Si



CM 2

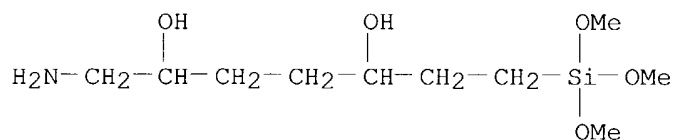
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587877-11-0 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 1-amino-7-(trimethoxysilyl)-2,5-heptanediol (9CI) (CA INDEX NAME)

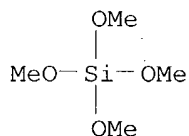
CM 1

CRN 587877-10-9  
 CMF C10 H25 N O5 Si



CM 2

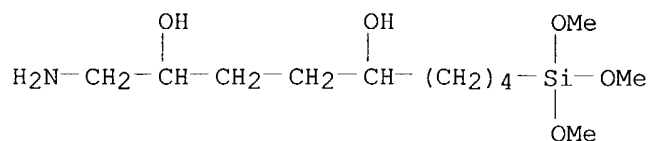
CRN 681-84-5  
 CMF C4 H12 O4 Si



RN 587877-13-2 HCAPLUS  
 CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
 1-amino-9-(trimethoxysilyl)-2,5-nonanediol (9CI) (CA INDEX NAME)

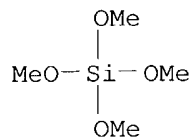
CM 1

CRN 587877-12-1  
 CMF C12 H29 N O5 Si



CM 2

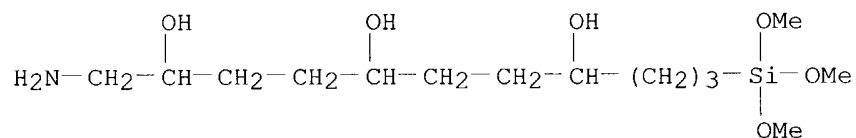
CRN 681-84-5  
CMF C4 H12 O4 Si



RN 587877-15-4 HCAPLUS  
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-11-(trimethoxysilyl)-2,5,8-undecanetriol (9CI) (CA INDEX NAME)

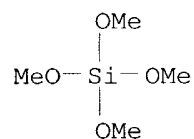
CM 1

CRN 587877-14-3  
CMF C14 H33 N O6 Si



CM 2

CRN 681-84-5  
CMF C4 H12 O4 Si

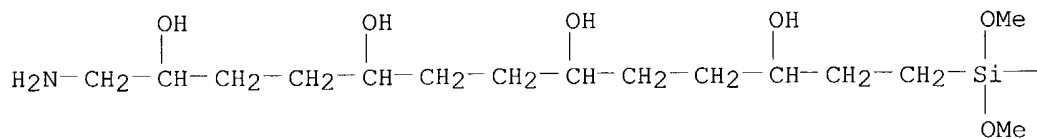


RN 587877-17-6 HCAPLUS  
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-13-(trimethoxysilyl)-2,5,8,11-tridecanetetrol (9CI) (CA INDEX NAME)

CM 1

CRN 587877-16-5  
CMF C16 H37 N O7 Si

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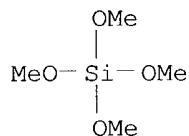
PAGE 1-B

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CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587877-19-8 HCAPLUS

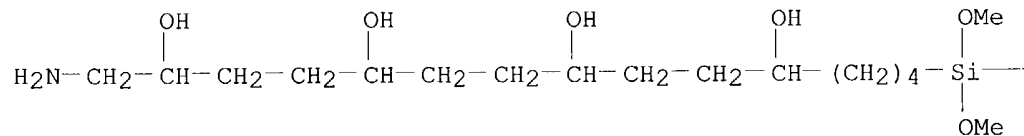
CN Silicic acid (H4SiO4), tetramethyl ester, polymer with  
1-amino-15-(trimethoxysilyl)-2,5,8,11-pentadecanetetrol (9CI) (CA INDEX  
NAME)

CM 1

CRN 587877-18-7

CMF C18 H41 N O7 Si

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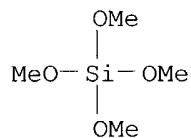
PAGE 1-B

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CM 2

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CRN 681-84-5  
CMF C4 H12 O4 Si

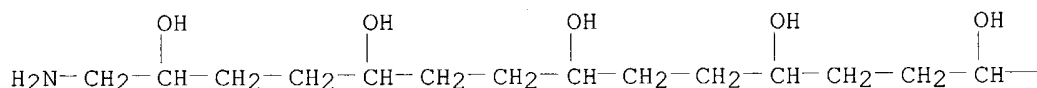


RN 587877-21-2 HCAPLUS  
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-18-(trimethoxysilyl)-2,5,8,11,14-octadecanepentol (9CI) (CA INDEX  
NAME)

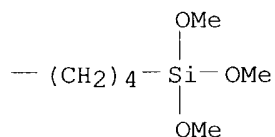
CM 1

CRN 587877-20-1  
CMF C21 H47 N O8 Si

PAGE 1-A

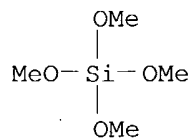


PAGE 1-B



CM 2

CRN 681-84-5  
CMF C4 H12 O4 Si

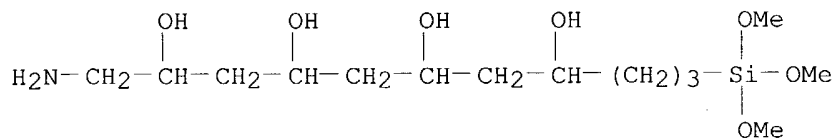


RN 587877-23-4 HCAPLUS  
CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-11-(trimethoxysilyl)-2,4,6,8-undecanetetrol (9CI) (CA INDEX NAME)

CM 1

CRN 587877-22-3

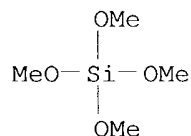
CMF C14 H33 N O7 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



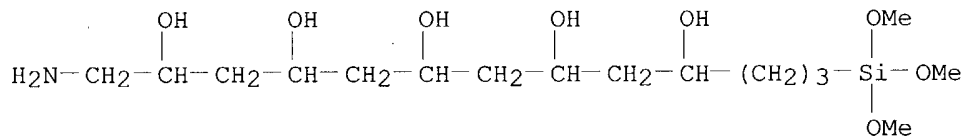
RN 587877-25-6 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-13-(trimethoxysilyl)-2,4,6,8,10-tridecanepentol (9CI) (CA INDEX  
NAME)

CM 1

CRN 587877-24-5

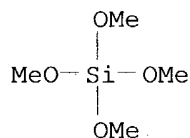
CMF C16 H37 N O8 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 587877-27-8 HCAPLUS

CN Silicic acid (H<sub>4</sub>SiO<sub>4</sub>), tetramethyl ester, polymer with  
1-amino-15-(trimethoxysilyl)-2,4,6,8,10,12-pentadecanehexol (9CI) (CA

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



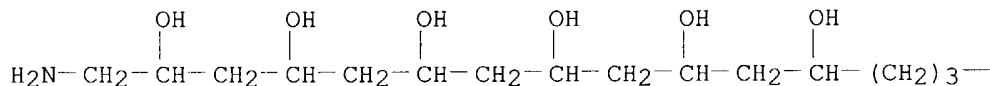
INDEX NAME)

CM 1

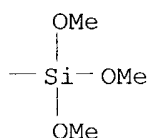
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CMF C18 H41 N O9 Si

PAGE 1-A



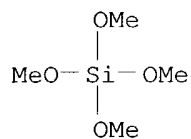
PAGE 1-B



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



L77 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:525542 HCAPLUS

DN 139:102533

TI Oil-based inks for electrostatic type ink-jet printing with good delivery and sharp image

IN Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 41 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003192961	A2	20030709	JP 2001-397014	20011227
PRAI	JP 2001-397014		20011227		

AB The inks contain a nonaq. carrier liquid having elec. resistance of  $\geq 10^9 \Omega$  and permittivity of  $\leq 3.5$ , and charge carrier resin particles dispersed in the liquid where the particles are prepared by polymerizing (A) monofunctional monomers which are **soluble** in a nonaq.

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solvent initially but become insol. in the solvent after polymerized, with (B) comonomers bearing both amino group and PO<sub>3</sub>H<sub>2</sub> group or SO<sub>3</sub>H group and (C) macromers bearing F- or/and Si-containing groups in the presence of a specific dispersing assistant. Thus, polymerizing CH<sub>2</sub>:CMeCOO(CH<sub>2</sub>)<sub>3</sub>SiMe<sub>2</sub>OSiMe<sub>2</sub>OSiMe<sub>3</sub> in the presence of 3-mercaptopropionic acid and AIBN and capping the resulting telomer with glycidyl methacrylate gave a macromer which was copolymerized with Me methacrylate, Me acrylate and 4-[ethyl[(phosphonoxy)methyl]amino]butyl methacrylate in the presence of a Me acrylate-Me methacrylate-stearyl methacrylate block copolymer (dispersant) to give a copolymer as particles useful for charge carrier for electrostatic type ink-jet printing ink.

IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT **557799-64-1P** 557799-65-2P 557799-66-3P **557799-68-5P**  
 557799-69-6P 557799-70-9P 557799-71-0P 557799-72-1P  
**557799-73-2P 557799-74-3P** 557799-75-4P  
**557799-76-5P 557799-77-6P 557799-78-7P**  
 557799-79-8P **557799-80-1P** 557799-81-2P 557799-82-3P  
**557799-83-4P 557799-84-5P 557799-85-6DP,**

trimethylsilyl ether **557799-86-7P 557799-87-8DP,**

trimethylsilyl ether **557799-88-9P 557799-89-0DP,**

trimethylsilyl ether **557799-90-3P 557799-91-4DP,**

trimethylsilyl ether **557799-92-5P 557799-93-6DP,**

trimethylsilyl ether **557799-94-7P 557799-95-8DP,**

trimethylsilyl ether **557799-96-9P 557799-97-0DP,**

trimethylsilyl ether

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(charge carrier; manufacture of oil-based inks for electrostatic type ink-jet printing with good delivery and sharp **image**)

IT 28501-98-6 155417-34-8 169329-20-8 305814-25-9 **557799-98-1**

557799-99-2 557800-00-7 **557800-01-8** 557800-02-9

**557800-03-0** 557800-04-1 557800-06-3 557800-08-5

RL: MOA (Modifier or additive use); USES (Uses)

(dispersants; manufacture of oil-based inks for electrostatic type ink-jet printing with good delivery and sharp **image**)

IT 106-91-2DP, Glycidyl methacrylate, reaction products with telomer-like compound 149434-03-7P **312260-55-2P** 312260-57-4P 312260-82-5P

312260-85-8P 312260-87-0P 312260-89-2P **312260-91-6P**

**312260-93-8DP,** reaction products with glycidyl methacrylate

**312260-96-1P 312261-02-2P** 312261-17-9P

**312261-21-5P** 312261-24-8P **312261-27-1P** 312261-30-6P

**558460-51-8P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(macromers for charge carrier; manufacture of oil-based inks for electrostatic type ink-jet printing with good delivery and sharp **image**)

IT **557799-64-1P 557799-68-5P 557799-73-2P**

**557799-74-3P 557799-76-5P 557799-77-6P**

**557799-78-7P 557799-80-1P 557799-83-4P**

**557799-84-5P 557799-85-6DP,** trimethylsilyl ether

**557799-86-7P 557799-87-8DP,** trimethylsilyl ether

**557799-88-9P 557799-89-0DP,** trimethylsilyl ether

**557799-90-3P 557799-91-4DP,** trimethylsilyl ether

**557799-92-5P 557799-93-6DP,** trimethylsilyl ether

**557799-94-7P 557799-95-8DP,** trimethylsilyl ether

**557799-96-9P 557799-97-0DP**, trimethylsilyl ether

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(charge carrier; manufacture of oil-based inks for electrostatic type ink-jet printing with good delivery and sharp **image**)

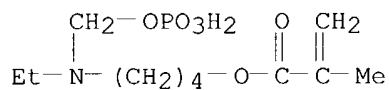
RN 557799-64-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-[ethyl[(phosphonooxy)methyl]amino]butyl ester, polymer with 3-(heptamethyltrisiloxanyl)propyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-45-7

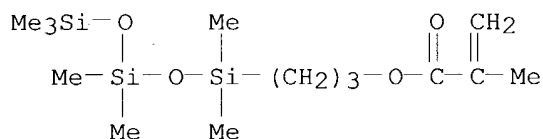
CMF C11 H22 N O6 P



CM 2

CRN 150624-86-5

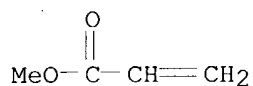
CMF C14 H32 O4 Si3



CM 3

CRN 96-33-3

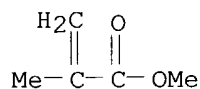
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

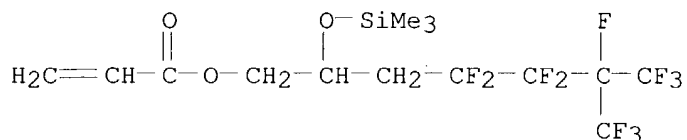
RN 557799-68-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-[ethyl[(phosphonooxy)methyl]amino]butyl ester, polymer with methyl 2-propenoate, 4,4,5,5,6,7,7,7-octafluoro-6-(trifluoromethyl)-2-[(trimethylsilyl)oxy]heptyl 2-propenoate and phenylmethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 557799-67-4

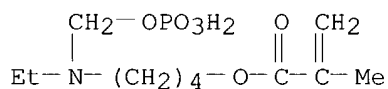
CMF C14 H17 F11 O3 Si



CM 2

CRN 524745-45-7

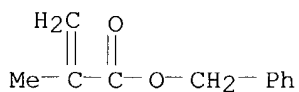
CMF C11 H22 N O6 P



CM 3

CRN 2495-37-6

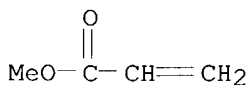
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



RN 557799-73-2 HCAPLUS

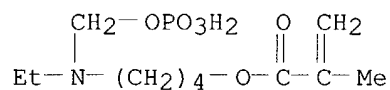
CN 2-Propenoic acid, 2-methyl-, 4-[ethyl[(phosphonooxy)methyl]amino]butyl ester, polymer with methyl 2-propenoate, phenylmethyl 2-methyl-2-

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propenoate, 2-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]ethy  
 1 2-propenoate and 2,2,2-trifluoroethyl 2-methyl-2-propenoate, graft (9CI)  
 (CA INDEX NAME)

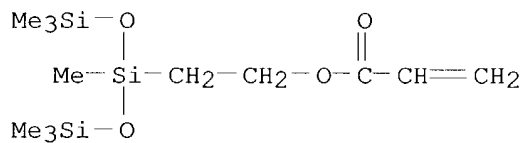
CM 1

CRN 524745-45-7  
 CMF C11 H22 N O6 P



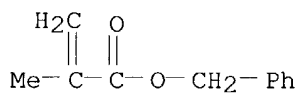
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CRN 133726-21-3  
 CMF C12 H28 O4 Si3



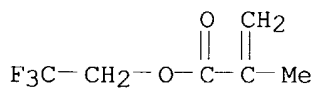
CM 3

CRN 2495-37-6  
 CMF C11 H12 O2



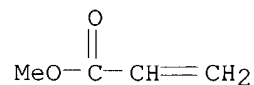
CM 4

CRN 352-87-4  
 CMF C6 H7 F3 O2



CM 5

CRN 96-33-3  
 CMF C4 H6 O2



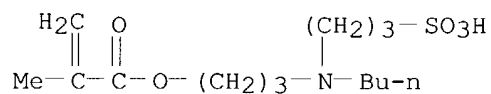
RN 557799-74-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester,  
polymer with methyl 2-propenoate, 3-(pentamethyldisiloxanyl)propyl  
2-methyl-2-propenoate and phenylmethyl 2-methyl-2-propenoate, graft (9CI)  
(CA INDEX NAME)

CM 1

CRN 524745-47-9

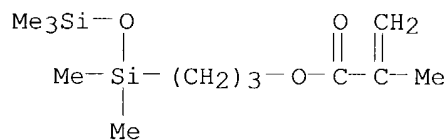
CMF C14 H27 N O5 S



CM 2

CRN 18151-85-4

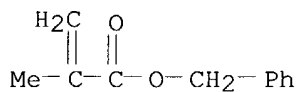
CMF C12 H26 O3 Si2



CM 3

CRN 2495-37-6

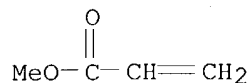
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



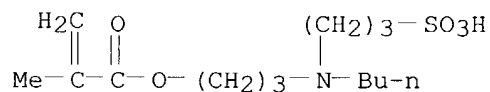
RN 557799-76-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester, polymer with methyl 2-propenoate, phenylmethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-47-9

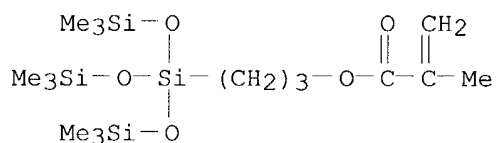
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CM 2

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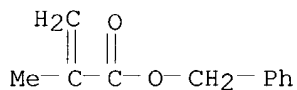
CMF C16 H38 O5 Si4



CM 3

CRN 2495-37-6

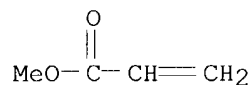
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



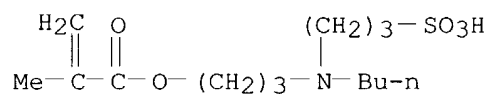
RN 557799-77-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,3-bis[(trimethylsilyl)oxy]propyl ester, polymer with 3-[butyl(3-sulfopropyl)amino]propyl 2-methyl-2-propenoate, methyl 2-propenoate and phenylmethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-47-9

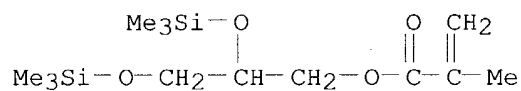
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CM 2

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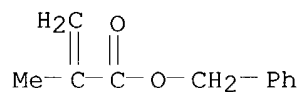
CMF C13 H28 O4 Si2



CM 3

CRN 2495-37-6

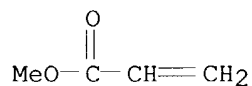
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



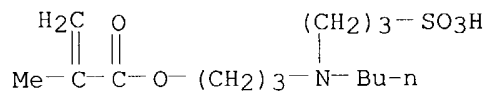


RN 557799-78-7 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester,  
 polymer with 3-[1,1,3,5,5,5-hexamethyl-3-(2,2,2-  
 trifluoroethyl)trisiloxanyl]propyl 2-methyl-2-propenoate, methyl  
 2-propenoate and phenylmethyl 2-methyl-2-propenoate, graft (9CI) (CA  
 INDEX NAME)

CM 1

CRN 524745-47-9

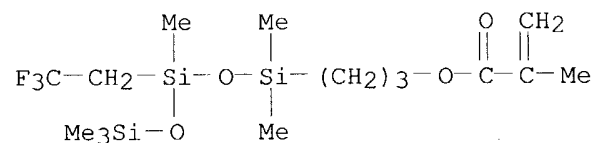
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CM 2

CRN 308278-77-5

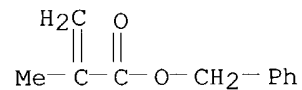
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CM 3

CRN 2495-37-6

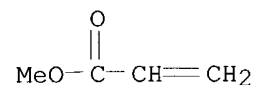
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



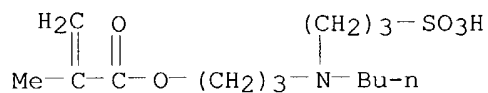
RN 557799-80-1 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester,  
 polymer with 3-[1,1,3,5,5,7,7-heptamethyl-7-(2,2,3,3,3-pentafluoropropyl)-

3-phenyltetrasiloxanyl]propyl 2-methyl-2-propenoate, methyl 2-propenoate  
and phenylmethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-47-9

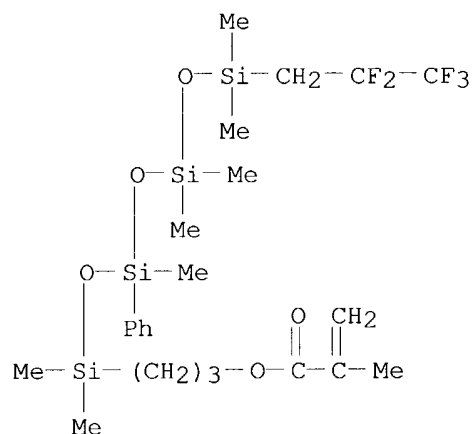
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CM 2

CRN 312261-18-0

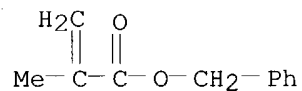
CMF C23 H39 F5 O5 Si4



CM 3

CRN 2495-37-6

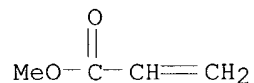
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



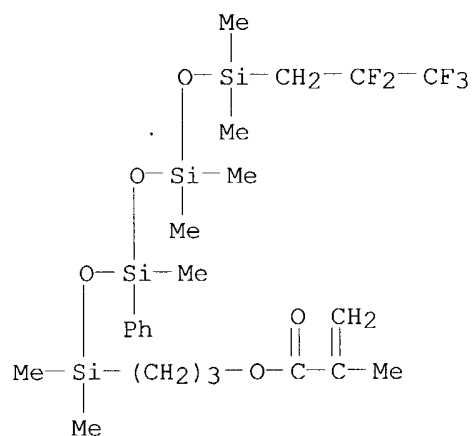
RN 557799-83-4 HCAPLUS

CN Ethanaminium, N,N-diethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-N-  
[(phosphonooxy)methyl]-, inner salt, compd. with N-ethylethanamine (1:1),  
polymer with ethyl 2-propenoate, 3-[1,1,3,5,5,7,7-heptamethyl-7-(2,2,3,3,3-  
pentafluoropropyl)-3-phenyltetrasiloxanyl]propyl 2-methyl-2-propenoate and  
methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 312261-18-0

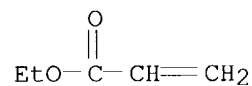
CMF C23 H39 F5 O5 Si4



CM 2

CRN 140-88-5

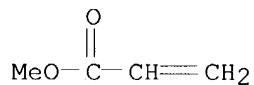
CMF C5 H8 O2



CM 3

CRN 96-33-3

CMF C4 H6 O2



CM 4

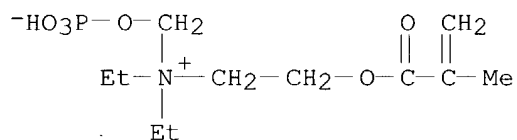
CRN 524745-68-4

CMF C11 H22 N O6 P . C4 H11 N

CM 5

CRN 524745-67-3

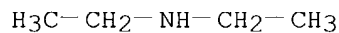
CMF C11 H22 N O6 P



CM 6

CRN 109-89-7

CMF C4 H11 N



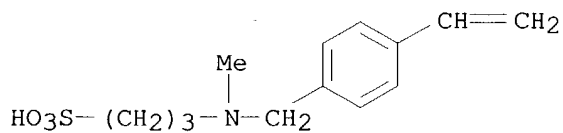
RN 557799-84-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], 3-[[[4-  
 ethenylphenyl)methyl]methylamino]-1-propanesulfonic acid and methyl  
 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-73-1

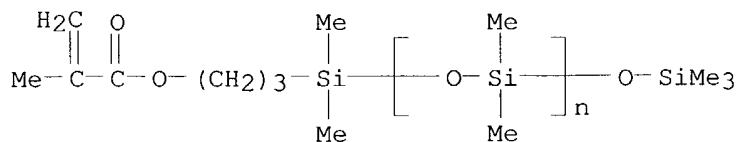
CMF C13 H19 N O3 S



CM 2

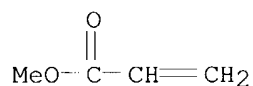
CRN 123109-42-2

CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2  
CCI PMS



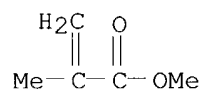
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

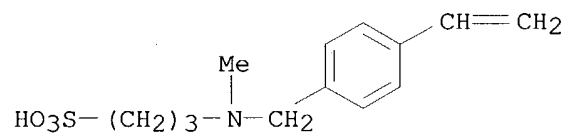
CRN 80-62-6  
CMF C5 H8 O2



RN 557799-85-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with dimethylsilanediol, 3-[[[(4-ethenylphenyl)methyl]methylamino]-1-propanesulfonic acid and methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

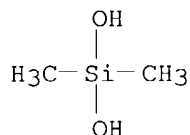
CM 1

CRN 524745-73-1  
CMF C13 H19 N O3 S



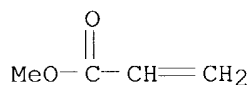
CM 2

CRN 1066-42-8  
CMF C2 H8 O2 Si



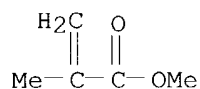
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

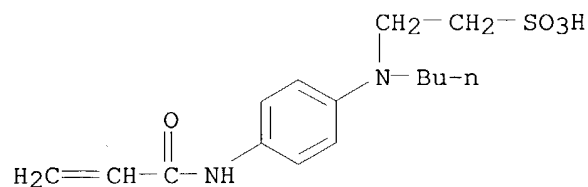
CRN 80-62-6  
CMF C5 H8 O2



RN 557799-86-7 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
2-[butyl[4-[(1-oxo-2-propenyl)amino]phenyl]amino]ethanesulfonic acid,  
α-[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]-ω-  
[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and methyl 2-propenoate,  
graft (9CI) (CA INDEX NAME)

CM 1

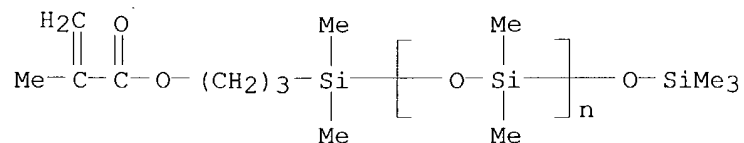
CRN 524745-88-8  
CMF C15 H22 N2 O4 S



CM 2

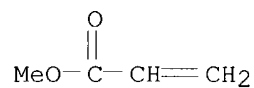
CRN 123109-42-2  
CMF (C2 H6 O Si)n C12 H26 O3 Si2

CCI PMS



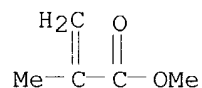
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

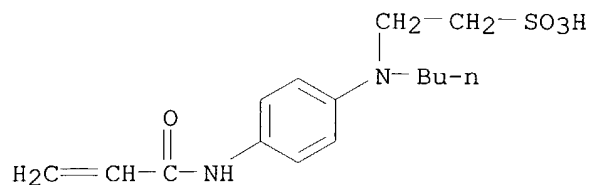
CRN 80-62-6  
CMF C5 H8 O2



RN 557799-87-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
2-[butyl[4-[(1-oxo-2-propenyl)amino]phenyl]amino]ethanesulfonic acid,  
dimethylsilanediol and methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

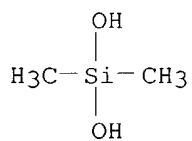
CM 1

CRN 524745-88-8  
CMF C15 H22 N2 O4 S



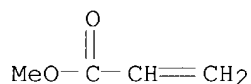
CM 2

CRN 1066-42-8  
CMF C2 H8 O2 Si



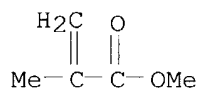
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

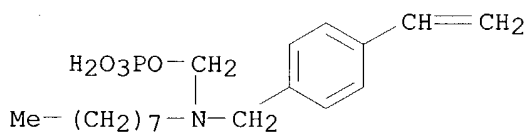
CRN 80-62-6  
CMF C5 H8 O2



RN 557799-88-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -  
[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], [[(4-  
ethenylphenyl)methyl]octylamino]methyl dihydrogen phosphate and methyl  
2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

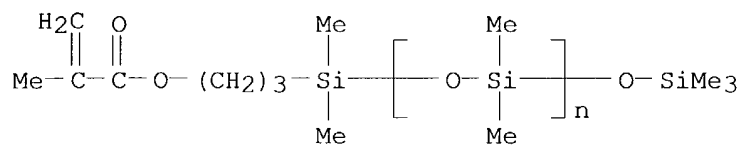
CRN 524745-90-2  
CMF C18 H30 N O4 P



CM 2

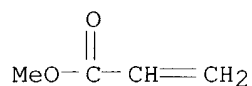
CRN 123109-42-2  
CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2  
CCI PMS





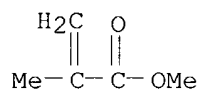
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

CRN 80-62-6  
CMF C5 H8 O2

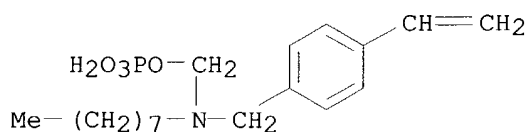


RN 557799-89-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with dimethylsilanediol, [[(4-ethenylphenyl)methyl]octylamino]methyl dihydrogen phosphate and methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

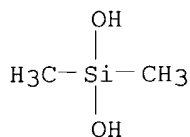
CM 1

CRN 524745-90-2  
CMF C18 H30 N O4 P



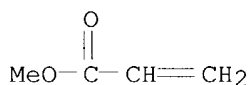
CM 2

CRN 1066-42-8  
CMF C2 H8 O2 Si



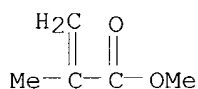
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

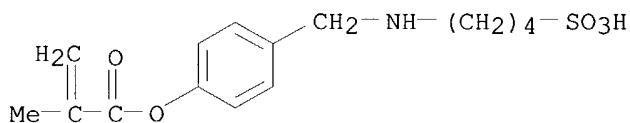
CRN 80-62-6  
CMF C5 H8 O2



RN 557799-90-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -  
[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], methyl 2-propenoate and  
4-[[[(4-sulfobutyl)amino]methyl]phenyl 2-methyl-2-propenoate, graft (9CI)  
(CA INDEX NAME)

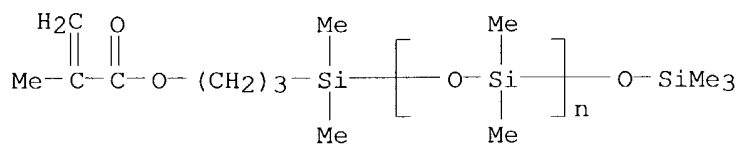
CM 1

CRN 524745-92-4  
CMF C15 H21 N O5 S



CM 2

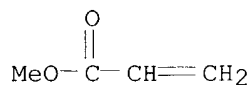
CRN 123109-42-2  
CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2  
CCI PMS



CM 3

CRN 96-33-3

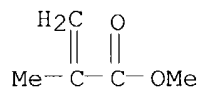
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



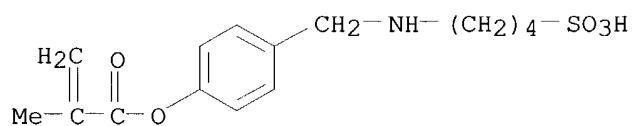
RN 557799-91-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with dimethylsilanediol, methyl 2-propenoate and 4-[[[4-sulfobutyl)amino]methyl]phenyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-92-4

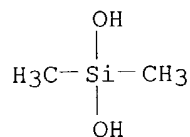
CMF C15 H21 N O5 S



CM 2

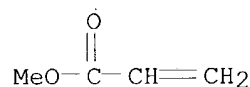
CRN 1066-42-8

CMF C2 H8 O2 Si



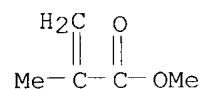
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

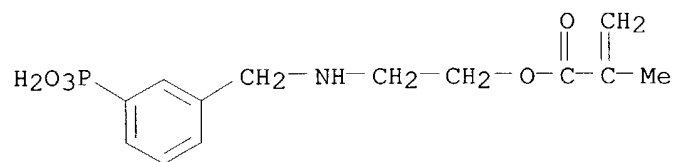
CRN 80-62-6  
CMF C5 H8 O2



RN 557799-92-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl)silyl]- $\omega$ -  
[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], methyl 2-propenoate and  
2-[[[(3-phosphonophenyl)methyl]amino]ethyl 2-methyl-2-propenoate, graft  
(9CI) (CA INDEX NAME)

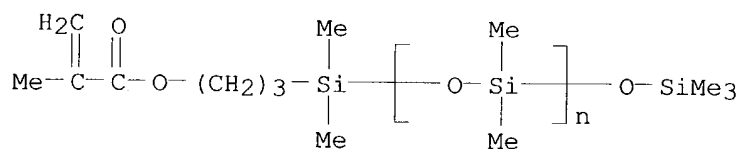
CM 1

CRN 524745-94-6  
CMF C13 H18 N O5 P



CM 2

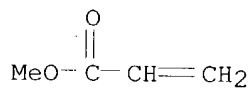
CRN 123109-42-2  
CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2  
CCI PMS



CM 3

CRN 96-33-3

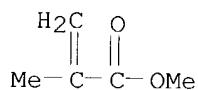
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



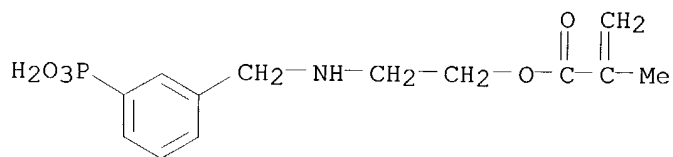
RN 557799-93-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with dimethylsilanediol, methyl 2-propenoate and 2-[[[3-phosphonophenyl)methyl]amino]ethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-94-6

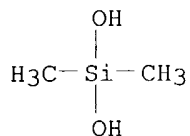
CMF C13 H18 N O5 P



CM 2

CRN 1066-42-8

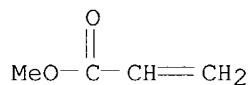
CMF C2 H8 O2 Si



CM 3

CRN 96-33-3

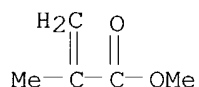
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



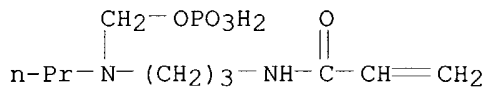
RN 557799-94-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], methyl 2-propenoate and  
 N-[3-[[[(phosphonooxy)methyl]propylamino]propyl]-2-propenamide, graft (9CI)  
 (CA INDEX NAME)

CM 1

CRN 524745-96-8

CMF C10 H21 N2 O5 P

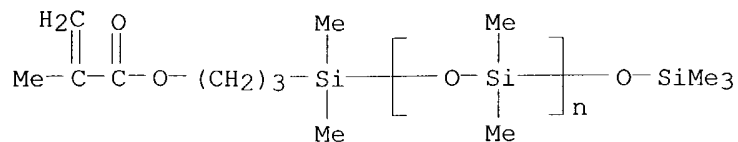


CM 2

CRN 123109-42-2

CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2

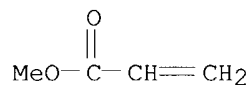
CCI PMS



CM 3

CRN 96-33-3

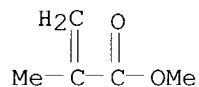
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



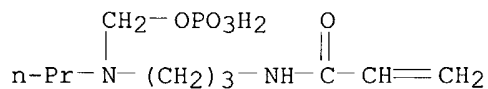
RN 557799-95-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with dimethylsilanediol, methyl 2-propenoate and N-[3-[(phosphonoxy)methyl]propylamino]propyl]-2-propenamide, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-96-8

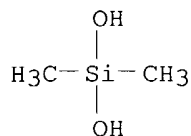
CMF C10 H21 N2 O5 P



CM 2

CRN 1066-42-8

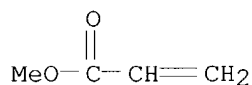
CMF C2 H8 O2 Si



CM 3

CRN 96-33-3

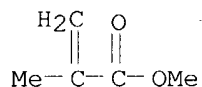
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



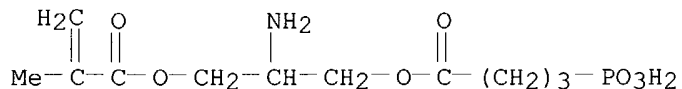
RN 557799-96-9 HCAPLUS

CN Butanoic acid, 4-phosphono-, 1-[2-amino-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl] ester, polymer with  $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]- $\omega$ -[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], methyl 2-methyl-2-propenoate and methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-98-0

CMF C11 H20 N O7 P



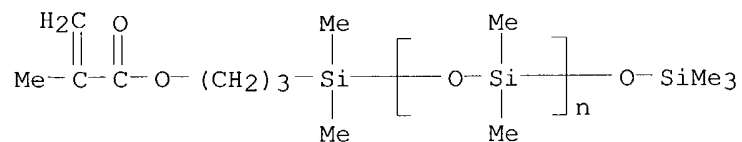
CM 2

CRN 123109-42-2

CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2

CCI PMS

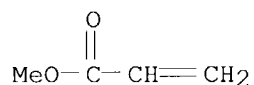




CM 3

CRN 96-33-3

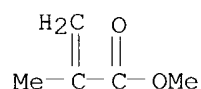
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



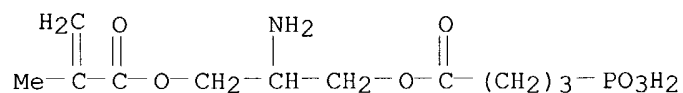
RN 557799-97-0 HCAPLUS

CN Butanoic acid, 4-phosphono-, 1-[2-amino-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl] ester, polymer with dimethylsilanediol, methyl 2-methyl-2-propenoate and methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 524745-98-0

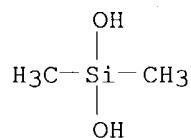
CMF C11 H20 N O7 P



CM 2

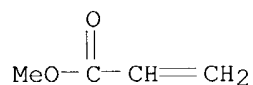
CRN 1066-42-8

CMF C2 H8 O2 Si



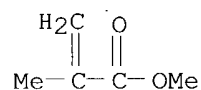
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

CRN 80-62-6  
CMF C5 H8 O2



IT 557799-98-1 557800-01-8 557800-03-0

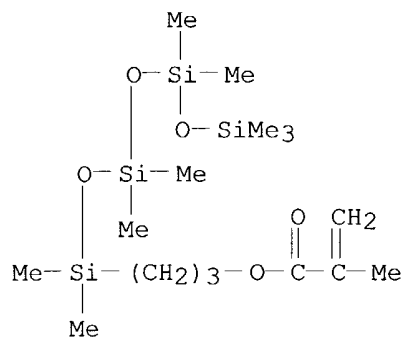
RL: MOA (Modifier or additive use); USES (Uses)  
(dispersants; manufacture of oil-based inks for electrostatic type ink-jet  
printing with good delivery and sharp **image**)

RN 557799-98-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, eicosyl ester, polymer with  
3-(nonamethyltetrasiloxanyl)propyl 2-methyl-2-propenoate and 2-propenamide  
(9CI) (CA INDEX NAME)

CM 1

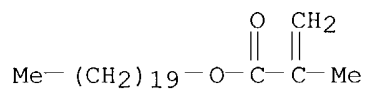
CRN 77865-90-8  
CMF C16 H38 O5 Si4



CM 2

CRN 45294-18-6

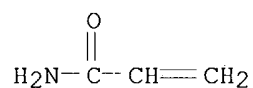
CMF C24 H46 O2



CM 3

CRN 79-06-1

CMF C3 H5 N O



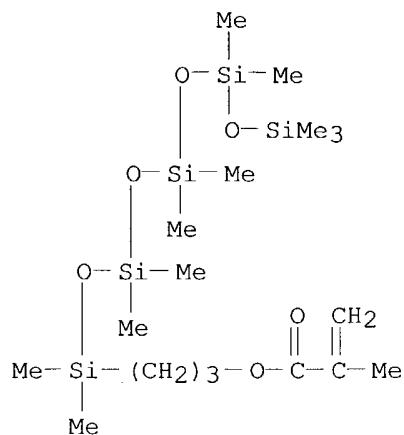
RN 557800-01-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(undecamethylpentasiloxanyl)propyl ester, polymer with ethenylbenzene, block (9CI) (CA INDEX NAME)

CM 1

CRN 107642-12-6

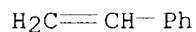
CMF C18 H44 O6 Si5



CM 2

CRN 100-42-5

CMF C8 H8



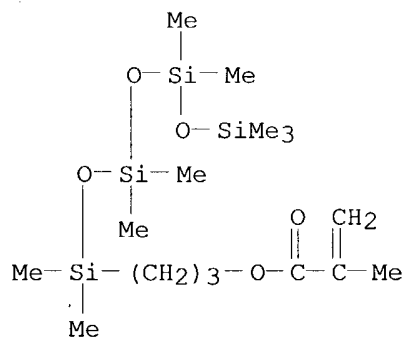
RN 557800-03-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(nonamethyltetrasiloxanyl)propyl ester, polymer with ethenylbenzene and 1-ethenyl-4-methylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 77865-90-8

CMF C16 H38 O5 Si4

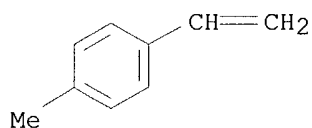


CM 2

CRN 622-97-9

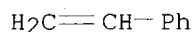
CMF C9 H10

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CM 3

CRN 100-42-5  
CMF C8 H8



IT 312260-55-2P 312260-91-6P 312260-93-8DP,  
reaction products with glycidyl methacrylate 312260-96-1P  
312261-02-2P 312261-21-5P 312261-27-1P  
558460-51-8P

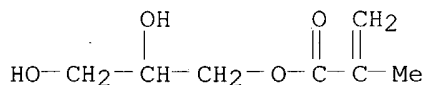
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(macromers for charge carrier; manufacture of oil-based inks for  
electrostatic type ink-jet printing with good delivery and sharp  
image)

RN 312260-55-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(heptamethyltrisiloxanyl)propyl ester,  
telomer with 3-mercaptopropanoic acid, 2-hydroxy-3-[(2-methyl-1-oxo-2-  
propenyl)oxy]propyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 5919-74-4  
CMF C7 H12 O4

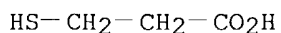


CM 2

CRN 312260-54-1  
CMF (C14 H32 O4 Si3)x . C3 H6 O2 S

CM 3

CRN 107-96-0  
CMF C3 H6 O2 S



CM 4

CRN 312260-53-0

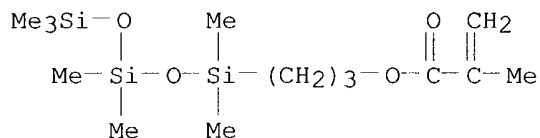
CMF (C14 H32 O4 Si3)x

CCI PMS

CM 5

CRN 150624-86-5

CMF C14 H32 O4 Si3



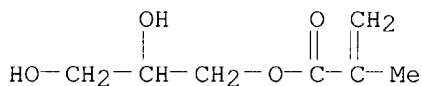
RN 312260-91-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(pentamethyldisiloxanyl)propyl ester, telomer with 3-mercaptopropanoic acid, 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 5919-74-4

CMF C7 H12 O4



CM 2

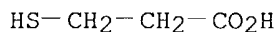
CRN 312260-90-5

CMF (C12 H26 O3 Si2)x . C3 H6 O2 S

CM 3

CRN 107-96-0

CMF C3 H6 O2 S



CM 4

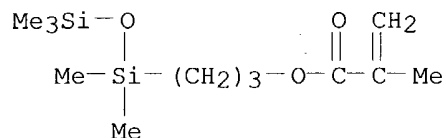
CRN 92459-75-1

CMF (C12 H26 O3 Si2)x

CCI PMS

CM 5

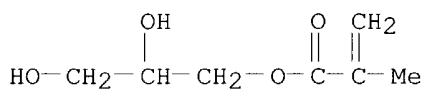
CRN 18151-85-4  
CMF C12 H26 O3 Si2



RN 312260-93-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl ester, telomer with 3-mercaptopropanoic acid, 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 5919-74-4  
CMF C7 H12 O4

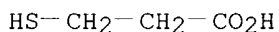


CM 2

CRN 312260-92-7  
CMF (C16 H38 O5 Si4)x . C3 H6 O2 S

CM 3

CRN 107-96-0  
CMF C3 H6 O2 S

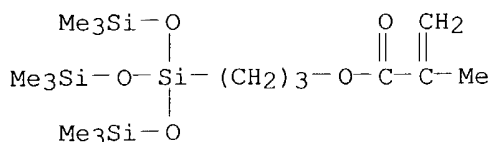


CM 4

CRN 28502-32-1  
CMF (C16 H38 O5 Si4)x  
CCI PMS

CM 5

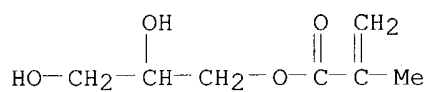
CRN 17096-07-0  
CMF C16 H38 O5 Si4



RN 312260-96-1 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2,3-bis[(trimethylsilyl)oxy]propyl ester, telomer with 3-mercaptopropanoic acid, 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 5919-74-4  
 CMF C7 H12 O4

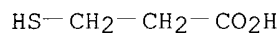


CM 2

CRN 312260-95-0  
 CMF (C13 H28 O4 Si2)x . C3 H6 O2 S

CM 3

CRN 107-96-0  
 CMF C3 H6 O2 S

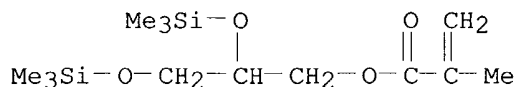


CM 4

CRN 312260-94-9  
 CMF (C13 H28 O4 Si2)x  
 CCI PMS

CM 5

CRN 143987-99-9  
 CMF C13 H28 O4 Si2



RN 312261-02-2 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 3-[1,1,3,5,5,5-hexamethyl-3-(2,2,2-

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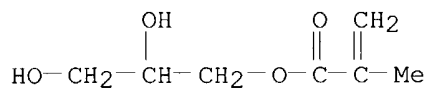


trifluoroethyl)trisiloxanyl]propyl ester, telomer with 3-mercaptopropanoic acid, 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 5919-74-4

CMF C7 H12 O4



CM 2

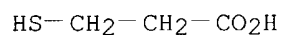
CRN 312261-01-1

CMF (C15 H31 F3 O4 Si3)x . C3 H6 O2 S

CM 3

CRN 107-96-0

CMF C3 H6 O2 S



CM 4

CRN 312261-00-0

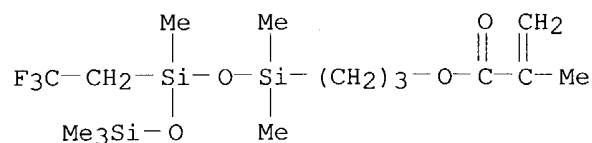
CMF (C15 H31 F3 O4 Si3)x

CCI PMS

CM 5

CRN 308278-77-5

CMF C15 H31 F3 O4 Si3



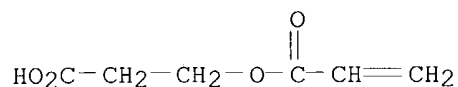
RN 312261-21-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[1,1,3,5,5,7,7-heptamethyl-7-(2,2,3,3,3-pentafluoropropyl)-3-phenyltetrasiloxanyl]propyl ester, telomer with 2-mercaptoethanol, 3-[(1-oxo-2-propenyl)oxy]propanoate (9CI) (CA INDEX NAME)

CM 1

CRN 24615-84-7

CMF C6 H8 O4

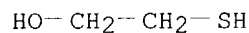


CM 2

CRN 312261-20-4  
CMF (C23 H39 F5 O5 Si4)x . C2 H6 O S

CM 3

CRN 60-24-2  
CMF C2 H6 O S

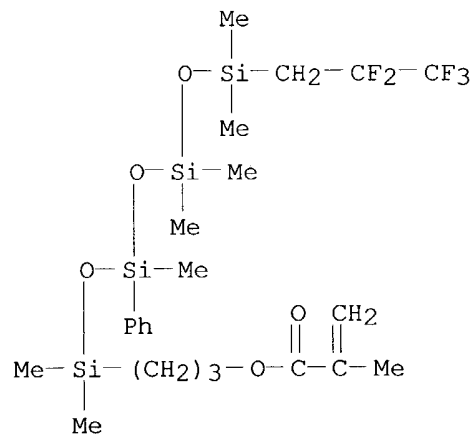


CM 4

CRN 312261-19-1  
CMF (C23 H39 F5 O5 Si4)x  
CCI PMS

CM 5

CRN 312261-18-0  
CMF C23 H39 F5 O5 Si4

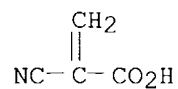


RN 312261-27-1 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2,2,2-trifluoroethyl ester, telomer with  
2-mercaptoethanol and 2-[1,3,3,3-tetramethyl-1-  
[(trimethylsilyl)oxy]disiloxanyl]ethyl 2-propenoate, 2-cyano-2-propenoate  
(9CI) (CA INDEX NAME)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CM 1

CRN 15802-18-3  
CMF C4 H3 N O2

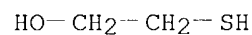


CM 2

CRN 312261-26-0  
CMF (C12 H28 O4 Si3 . C6 H7 F3 O2)x . C2 H6 O S

CM 3

CRN 60-24-2  
CMF C2 H6 O S

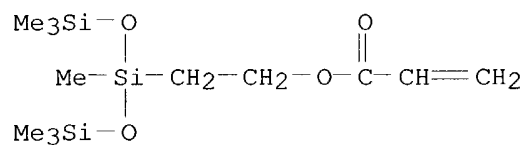


CM 4

CRN 312261-25-9  
CMF (C12 H28 O4 Si3 . C6 H7 F3 O2)x  
CCI PMS

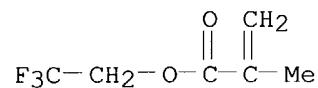
CM 5

CRN 133726-21-3  
CMF C12 H28 O4 Si3



CM 6

CRN 352-87-4  
CMF C6 H7 F3 O2

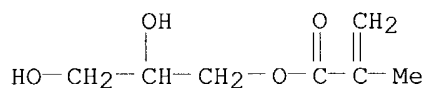


RN 558460-51-8 HCAPLUS  
 CN 2-Propenoic acid, 4,4,5,5,6,7,7,7-octafluoro-6-(trifluoromethyl)-2-  
 [(trimethylsilyl)oxy]heptyl ester, telomer with 3-mercaptopropanoic acid,  
 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester (9CI) (CA INDEX  
 NAME)

CM 1

CRN 5919-74-4

CMF C7 H12 O4



CM 2

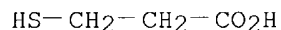
CRN 558460-50-7

CMF (C14 H17 F11 O3 Si)x . C3 H6 O2 S

CM 3

CRN 107-96-0

CMF C3 H6 O2 S



CM 4

CRN 558460-49-4

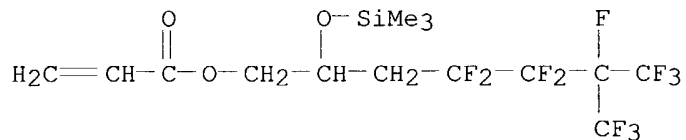
CMF (C14 H17 F11 O3 Si)x

CCI PMS

CM 5

CRN 557799-67-4

CMF C14 H17 F11 O3 Si



L77 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:525541 HCAPLUS

DN 139:102532

TI Oil-based inks for electrostatic type ink-jet printing with good delivery  
 and sharp image

IN Kato, Eiichi

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 34 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003192959	A2	20030709	JP 2001-396974	20011227
PRAI	JP 2001-396974		20011227		

AB The inks contain a nonaq. carrier liquid having elec. resistance of  $\geq 109 \Omega$  and permittivity of  $\leq 3.5$ , and charge carrier resin particles dispersed in the liquid where the particles are prepared by polymerizing (A) monofunctional monomers which are **soluble** in a nonaq. solvent initially but become insol. in the solvent after polymerized, with (B) comonomers bearing both amino group and PO<sub>3</sub>H<sub>2</sub> group or SO<sub>3</sub>H group and (C) comonomers bearing F- or/and Si-containing groups in the presence of a dispersing assistant which is **soluble** in the nonaq. solvent and bearing ester or ether groups. Thus, adding a mixture of Me methacrylate 30, Me acrylate 56, CH<sub>2</sub>:CMeCOO(CH<sub>2</sub>)<sub>4</sub>N+(Et)HCH<sub>2</sub>OP(O)(OH)O- 10, CH<sub>2</sub>:CMeCOO(CH<sub>2</sub>)<sub>3</sub>SiMe<sub>2</sub>(OSiMe<sub>2</sub>)<sub>2</sub>OSiMe<sub>3</sub> 4, EtOH 50 and 2,2'-azobis(isovaleronitrile) 1.5 over 1.5 h to a mixture of Me acrylate-Me methacrylate-stearyl methacrylate block copolymer (dispersant) 12 and Isopar H 250, mixing for 2 h, adding 2,2'-azobis(isovaleronitrile) 0.8 g, heating with stirring at 80° for 3 h, heating to 100° while reducing the pressure to 200 mm-Hg and stirring for 2 h to remove unreacted monomers, cooling and sieving through a 200-mesh nylon fabric gave a dispersion containing microparticles with average diameter of 0.45  $\mu$ m,

Mw 1x10<sup>5</sup> and Tg 40°. Mixing the dispersion with a pigment paste, additives and solvent gave an electrostatic ink.

IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT 557105-42-7P 557105-43-8P 557105-45-0P 557105-46-1P  
 557105-47-2P 557105-49-4P 557105-51-8P 557105-52-9P  
 557105-53-0P 557105-55-2P 557105-56-3P 557105-57-4P  
 557105-58-5P 557105-61-0P 557105-62-1P  
 557105-63-2P 557105-64-3P 557105-65-4P  
 557105-66-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(charge carrier; manufacture of oil-based inks for electrostatic type ink-jet printing with good delivery and sharp **image**)

IT 557105-42-7P 557105-45-0P 557105-49-4P  
 557105-51-8P 557105-53-0P 557105-56-3P  
 557105-58-5P 557105-61-0P 557105-62-1P  
 557105-63-2P 557105-64-3P 557105-65-4P  
 557105-66-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(charge carrier; manufacture of oil-based inks for electrostatic type ink-jet printing with good delivery and sharp **image**)

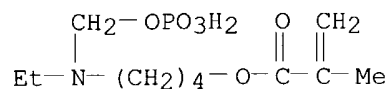
RN 557105-42-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-[ethyl[(phosphonooxy)methyl]amino]butyl ester, polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate and 3-(nonamethyltetrasiloxanyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 524745-45-7

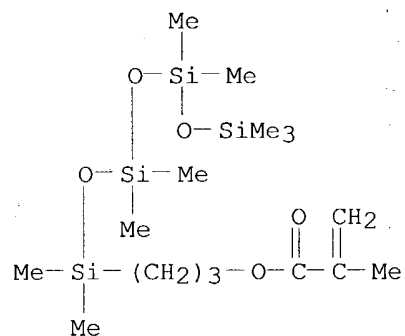
CMF C11 H22 N O6 P



CM 2

CRN 77865-90-8

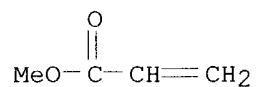
CMF C16 H38 O5 Si4



CM 3

CRN 96-33-3

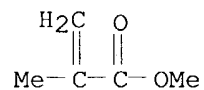
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



RN 557105-45-0 HCAPLUS

CN Butanoic acid, heptafluoro-, 3-[(2-methyl-1-oxo-2-propenyl)oxy]-2-

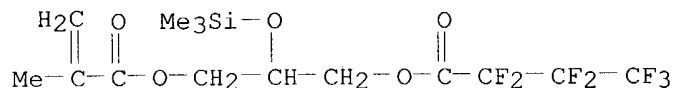
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

[(trimethylsilyl)oxy]propyl ester, polymer with 3-[butyl(3-sulfopropyl)amino]propyl 2-methyl-2-propenoate, methyl 2-propenoate and phenylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 557105-44-9

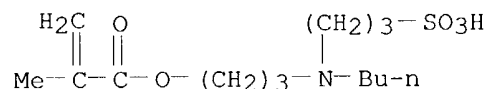
CMF C14 H19 F7 O5 Si



CM 2

CRN 524745-47-9

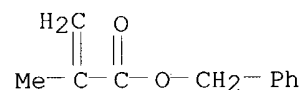
CMF C14 H27 N O5 S



CM 3

CRN 2495-37-6

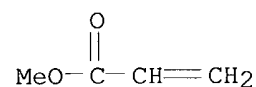
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2

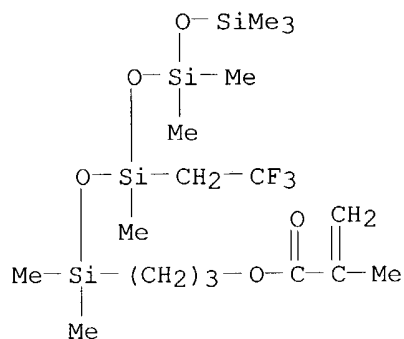


RN 557105-49-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester, polymer with methyl 2-propenoate, 3-[1,1,3,5,5,7,7,7-octamethyl-3-(2,2,2-trifluoroethyl)tetrasiloxanyl]propyl 2-methyl-2-propenoate and phenylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

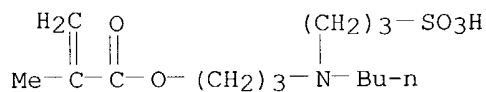
CM 1

CRN 557105-48-3  
CMF C17 H37 F3 O5 Si4



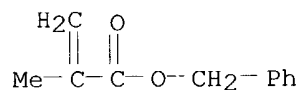
CM 2

CRN 524745-47-9  
CMF C14 H27 N O5 S



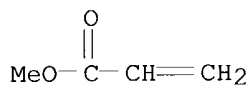
CM 3

CRN 2495-37-6  
CMF C11 H12 O2



CM 4

CRN 96-33-3  
CMF C4 H6 O2



RN 557105-51-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester, polymer with methyl 2-propenoate, 4,4,5,5,6,7,7,7-octafluoro-6-(trifluoromethyl)-2-[(trimethylsilyl)oxy]heptyl 2-methyl-2-propenoate and phenylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

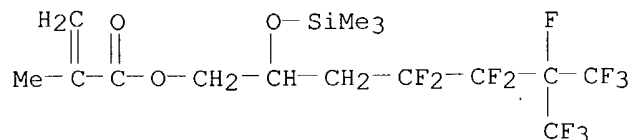
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



CM 1

CRN 557105-50-7

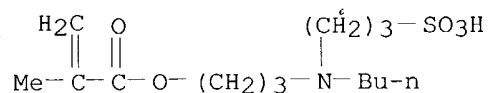
CMF C15 H19 F11 O3 Si



CM 2

CRN 524745-47-9

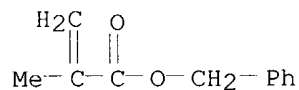
CMF C14 H27 N O5 S



CM 3

CRN 2495-37-6

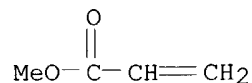
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



RN 557105-53-0 HCAPLUS

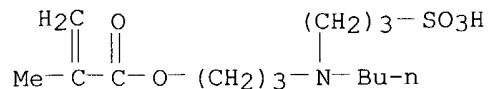
CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester, polymer with methyl 2-propenoate, phenylmethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 524745-47-9

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

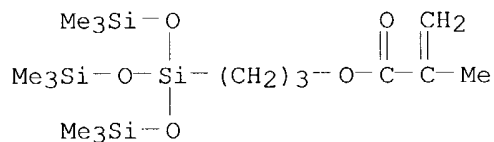
CMF C14 H27 N O5 S



CM 2

CRN 17096-07-0

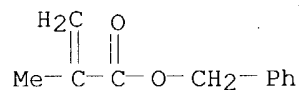
CMF C16 H38 O5 Si4



CM 3

CRN 2495-37-6

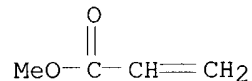
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



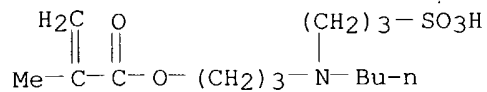
RN 557105-56-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[butyl(3-sulfopropyl)amino]propyl ester, polymer with methyl 2-propenoate, 2-(pentamethyldisiloxanyl)ethyl 2-methyl-2-propenoate and phenylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 524745-47-9

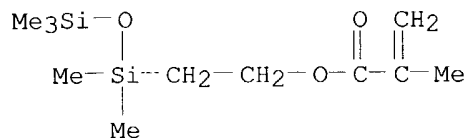
CMF C14 H27 N O5 S



CM 2

CRN 25443-39-4

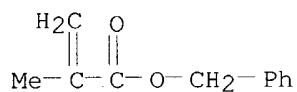
CMF C11 H24 O3 Si2



CM 3

CRN 2495-37-6

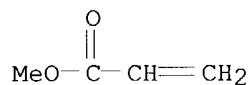
CMF C11 H12 O2



CM 4

CRN 96-33-3

CMF C4 H6 O2



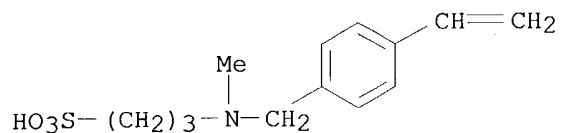
RN 557105-58-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
3-[[[4-ethenylphenyl)methyl]methylamino]-1-propanesulfonic acid, methyl  
2-propenoate and 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate (9CI)  
(CA INDEX NAME)

CM 1

CRN 524745-73-1

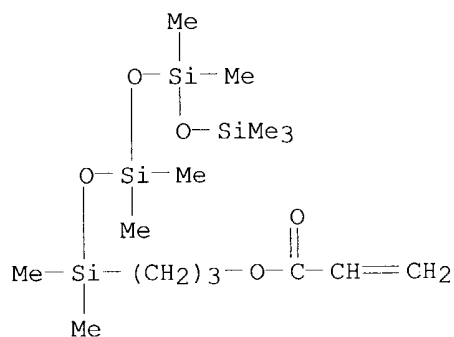
CMF C13 H19 N O3 S



CM 2

CRN 150625-35-7

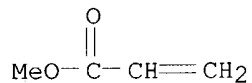
CMF C15 H36 O5 Si4



CM 3

CRN 96-33-3

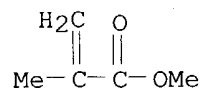
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



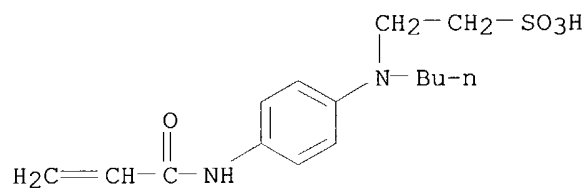
RN 557105-61-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
2-[butyl[4-[(1-oxo-2-propenyl)amino]phenyl]amino]ethanesulfonic acid,  
methyl 2-propenoate and 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate  
(9CI) (CA INDEX NAME)

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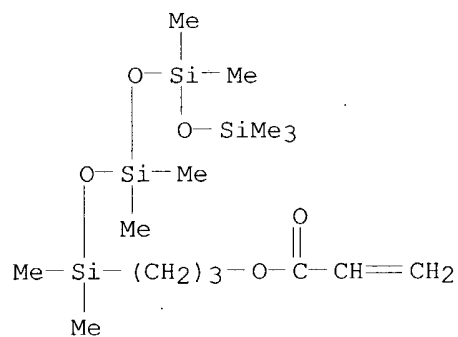
CM 1

CRN 524745-88-8  
CMF C15 H22 N2 O4 S



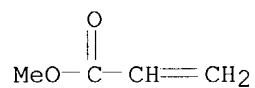
CM 2

CRN 150625-35-7  
CMF C15 H36 O5 Si4



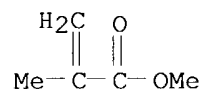
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

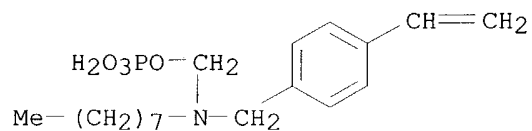
CRN 80-62-6  
CMF C5 H8 O2



RN 557105-62-1 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 [[(4-ethenylphenyl)methyl]octylamino]methyl dihydrogen phosphate, methyl  
 2-propenoate and 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate (9CI)  
 (CA INDEX NAME)

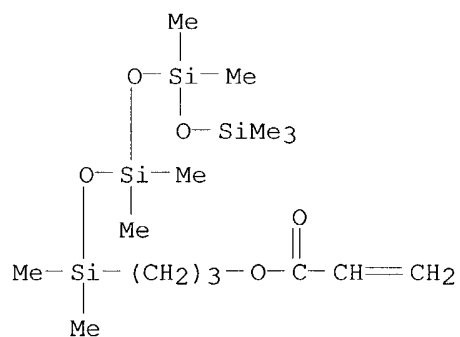
CM 1

CRN 524745-90-2  
 CMF C18 H30 N O4 P



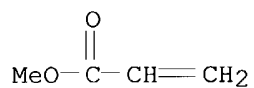
CM 2

CRN 150625-35-7  
 CMF C15 H36 O5 Si4



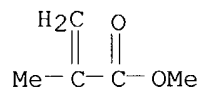
CM 3

CRN 96-33-3  
 CMF C4 H6 O2



CM 4

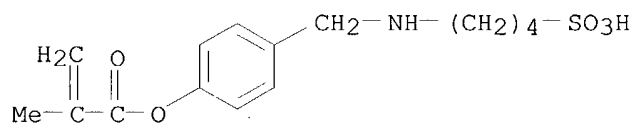
CRN 80-62-6  
 CMF C5 H8 O2



RN 557105-63-2 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl  
 2-propenoate, 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate and  
 4-[[[(4-sulfobutyl)amino]methyl]phenyl 2-methyl-2-propenoate (9CI) (CA  
 INDEX NAME)

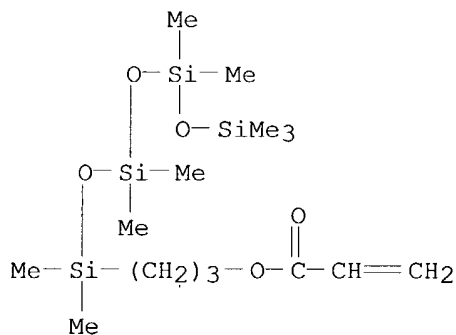
CM 1

CRN 524745-92-4  
 CMF C15 H21 N O5 S



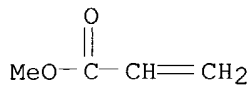
CM 2

CRN 150625-35-7  
 CMF C15 H36 O5 Si4



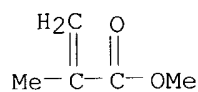
CM 3

CRN 96-33-3  
 CMF C4 H6 O2



CM 4

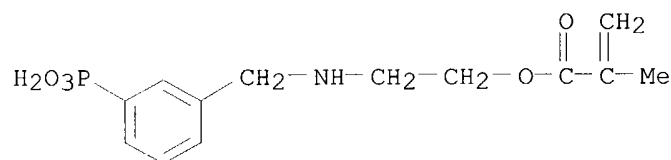
CRN 80-62-6  
CMF C5 H8 O2



RN 557105-64-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl  
2-propenoate, 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate and  
2-[[[3-phosphonophenyl)methyl]amino]ethyl 2-methyl-2-propenoate (9CI) (CA  
INDEX NAME)

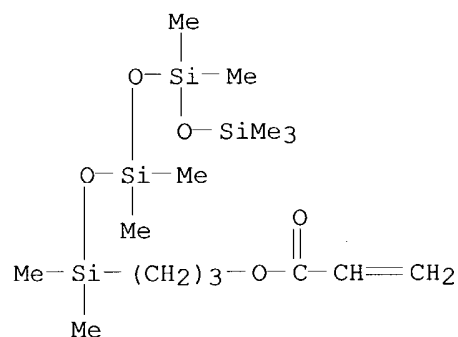
CM 1

CRN 524745-94-6  
CMF C13 H18 N O5 P



CM 2

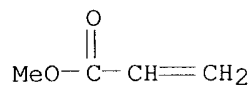
CRN 150625-35-7  
CMF C15 H36 O5 Si4



CM 3

CRN 96-33-3  
CMF C4 H6 O2

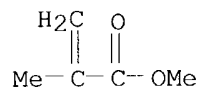




CM 4

CRN 80-62-6

CMF C5 H8 O2



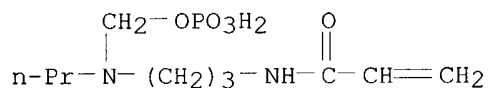
RN 557105-65-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl 2-propenoate, 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate and N-[3-[[[(phosphonooxy)methyl]propylamino]propyl]-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 524745-96-8

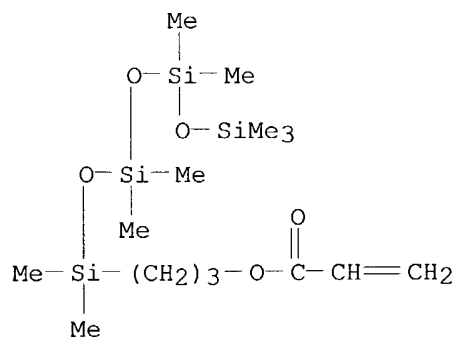
CMF C10 H21 N2 O5 P



CM 2

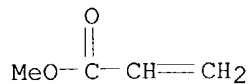
CRN 150625-35-7

CMF C15 H36 O5 Si4



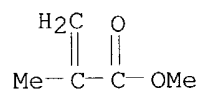
CM 3

CRN 96-33-3  
CMF C4 H6 O2



CM 4

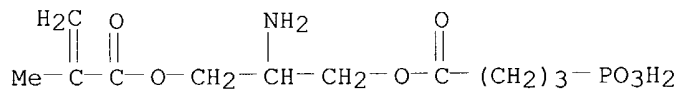
CRN 80-62-6  
CMF C5 H8 O2



RN 557105-66-5 HCAPLUS  
CN Butanoic acid, 4-phosphono-, 1-[2-amino-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl] ester, polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate and 3-(nonamethyltetrasiloxanyl)propyl 2-propenoate (9CI) (CA INDEX NAME)

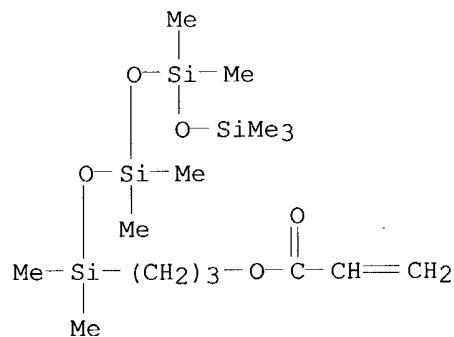
CM 1

CRN 524745-98-0  
CMF C11 H20 N O7 P



CM 2

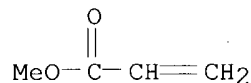
CRN 150625-35-7  
CMF C15 H36 O5 Si4



CM 3

CRN 96-33-3

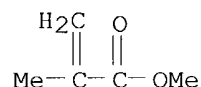
CMF C4 H6 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



L77 ANSWER 9 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:472725 HCAPLUS

DN 139:44220

TI Image forming material containing specified polymer surfactant suitable for manufacturing liquid crystal display color filter

IN Suzuki, Tamotsu

PA Fuji Photo Film Co., Ltd., Japan

SO PCT Int. Appl., 80 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003050620	A1	20030619	WO 2002-JP11582	20021106
	W: CN, KR				
	JP 2003177519	A2	20030627	JP 2001-380058	20011213
	JP 2003177520	A2	20030627	JP 2001-380059	20011213
	JP 2003177521	A2	20030627	JP 2001-380147	20011213
	JP 2003177522	A2	20030627	JP 2001-380283	20011213
	JP 2003177523	A2	20030627	JP 2001-380291	20011213
PRAI	JP 2001-380058	A	20011213		
	JP 2001-380059	A	20011213		
	JP 2001-380147	A	20011213		
	JP 2001-380283	A	20011213		
	JP 2001-380291	A	20011213		

AB An image forming material comprising, formed on a support in the order mentioned, at least an alkali-**soluble** thermoplastic resin layer and a photosensitive resin layer, characterized in that at least one of the thermoplastic resin layer and the photosensitive resin layer contains a copolymer containing a specific monomer, whereby it is possible to provide an image forming material being at least free from coating unevenness, smooth in coating surface condition, and excellent in glass substrate bondability, or provide an image forming material having characteristics

such as a uniform layer thickness, freedom from color unevenness, an excellent defoaming property free from foaming, and freedom from crawling or pin holes.

IC ICM G03F007-004

ICS G03F007-11

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 42

IT 130005-92-4 543725-89-9 543725-90-2

543725-91-3 543725-92-4 543725-93-5

543725-94-6 543725-95-7 543725-96-8

543725-97-9 543725-98-0 543725-99-1 543726-00-7 543726-01-8

543726-02-9 543726-03-0 543726-04-1 543726-05-2 543726-06-3

543726-07-4 543726-08-5

RL: MOA (Modifier or additive use); USES (Uses)

(surfactant; **image** forming material containing specified polymer surfactant suitable for manufacturing liquid crystal display color filter)

IT 543725-89-9 543725-90-2 543725-91-3

543725-92-4 543725-93-5 543725-94-6

543725-95-7 543725-96-8

RL: MOA (Modifier or additive use); USES (Uses)

(surfactant; **image** forming material containing specified polymer surfactant suitable for manufacturing liquid crystal display color filter)

RN 543725-89-9 HCAPLUS

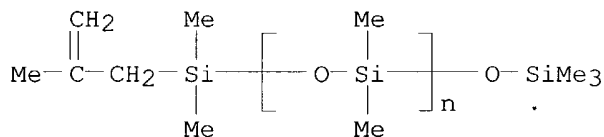
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and 3,3,4,4,5,5,6,6,6-nonafluorohexyl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 543725-88-8

CMF (C2 H6 O Si)n C9 H22 O Si2

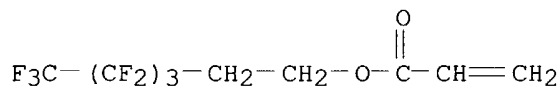
CCI PMS



CM 2

CRN 52591-27-2

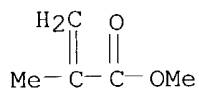
CMF C9 H7 F9 O2



CM 3

CRN 80-62-6

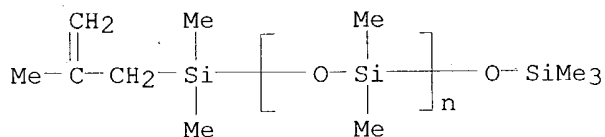
CMF C5 H8 O2



RN 543725-90-2 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and  
 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate,  
 graft (9CI) (CA INDEX NAME)

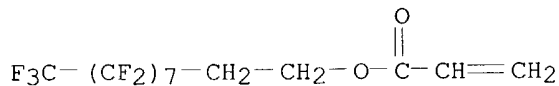
CM 1

CRN 543725-88-8  
 CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2  
 CCI PMS



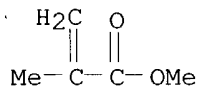
CM 2

CRN 27905-45-9  
 CMF C13 H7 F17 O2



CM 3

CRN 80-62-6  
 CMF C5 H8 O2

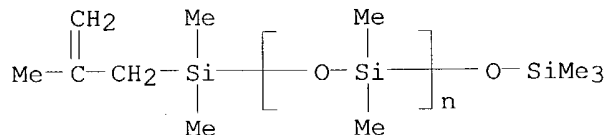


RN 543725-91-3 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and 3,3,4,4,5,5,6,6,6-  
 nonafluorohexyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

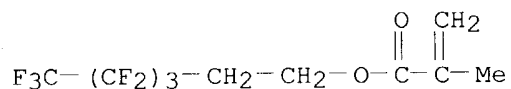
CM 1

CRN 543725-88-8  
 CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2  
 CCI PMS



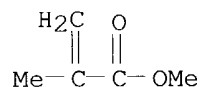
CM 2

CRN 1799-84-4  
 CMF C10 H9 F9 O2



CM 3

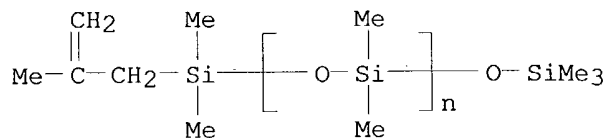
CRN 80-62-6  
 CMF C5 H8 O2



RN 543725-92-4 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and  
 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-methyl-2-propenoate, graft  
 (9CI) (CA INDEX NAME)

CM 1

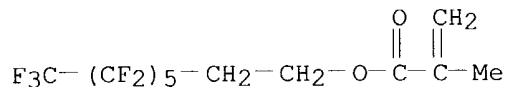
CRN 543725-88-8  
 CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2  
 CCI PMS



CM 2

CRN 2144-53-8

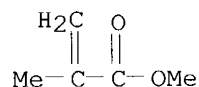
CMF C12 H9 F13 O2



CM 3

CRN 80-62-6

CMF C5 H8 O2



RN 543725-93-5 HCAPLUS

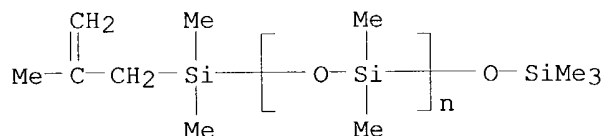
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with  $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and methyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 543725-88-8

CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2

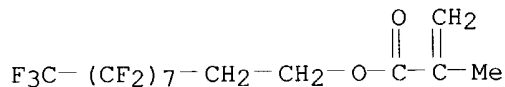
CCI PMS



CM 2

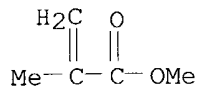
CRN 1996-88-9

CMF C14 H9 F17 O2



CM 3

CRN 80-62-6  
CMF C5 H8 O2

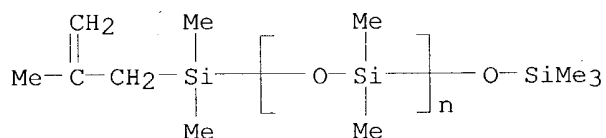


RN 543725-94-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)],  
 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate and  
 $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -hydroxypoly(oxy-1,2-  
 ethanediyl), graft (9CI) (CA INDEX NAME)

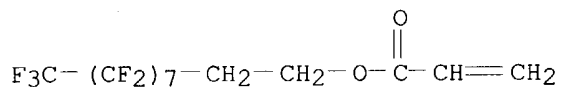
CM 1

CRN 543725-88-8  
CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2  
CCI PMS



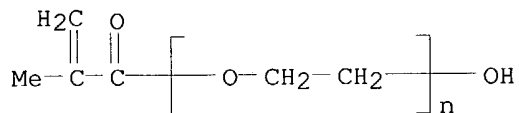
CM 2

CRN 27905-45-9  
CMF C13 H7 F17 O2



CM 3

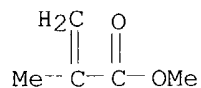
CRN 25736-86-1  
CMF (C2 H4 O)<sub>n</sub> C4 H6 O2  
CCI PMS



CM 4



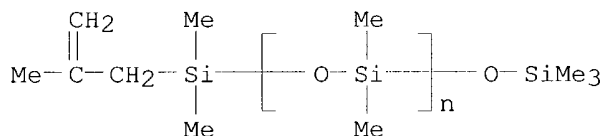
CRN 80-62-6  
CMF C5 H8 O2



RN 543725-95-7 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -  
[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)],  
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate and  
 $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -hydroxypoly[oxy(methyl-1,2-  
ethanediy)], graft (9CI) (CA INDEX NAME)

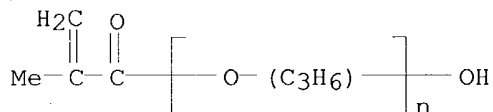
CM 1

CRN 543725-88-8  
CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2  
CCI PMS



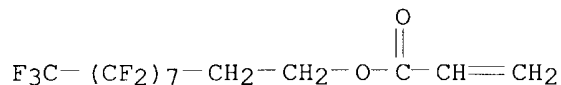
CM 2

CRN 39420-45-6  
CMF (C3 H6 O)<sub>n</sub> C4 H6 O2  
CCI IDS, PMS



CM 3

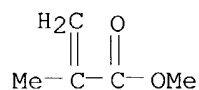
CRN 27905-45-9  
CMF C13 H7 F17 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



RN 543725-96-8 HCAPLUS

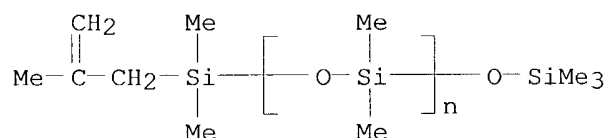
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with  $\alpha$ -[dimethyl(2-methyl-2-propenyl)silyl]- $\omega$ -[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], methyl 2-methyl-2-propenoate and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)], graft (9CI) (CA INDEX NAME)

CM 1

CRN 543725-88-8

CMF (C2 H6 O Si)<sub>n</sub> C9 H22 O Si2

CCI PMS

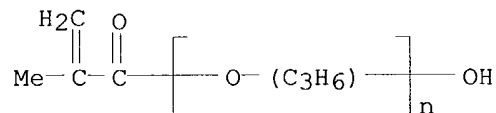


CM 2

CRN 39420-45-6

CMF (C3 H6 O)<sub>n</sub> C4 H6 O2

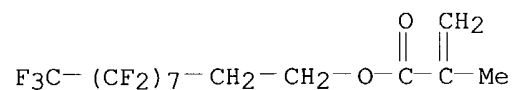
CCI IDS, PMS



CM 3

CRN 1996-88-9

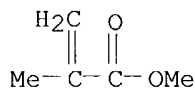
CMF C14 H9 F17 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L77 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:369044 HCAPLUS

DN 138:370460

TI Oil-based inks for electrostatic ink-jet printing producing images with  
good clarity and high strength and freedom from nozzle clogging

IN Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 42 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003138183	A2	20030514	JP 2001-342008	20011107
PRAI	JP 2001-342008		20011107		

AB The inks useful for lithog. printing plate production, are prepared in a nonaq. carrier liquid having elec. resistance of  $>10^9 \Omega \cdot \text{cm}$  and permittivity of  $<3.5$  and contain partially crosslinked copolymer particles derived from the polymerization and granulation of (A) nonaq. solvent-**soluble** monofunctional monomers which become insol. in the solvent after polymerized, with (B) comonomers bearing amino group and  $-\text{PO}_3\text{H}_2$  group or  $\text{SO}_3\text{H}$  group and other desired comonomers in the presence of dispersion stabilizing resins. Thus, heating octadecyl methacrylate 100 with divinylbenzene 1.0 and PhMe 200 under N to  $85^\circ$ , adding AIBN 3.0, reacting for 4 h, adding AIBN 1.0, reacting for 2 h, further adding AIBN 0.5 g, reacting for 2 h, cooling and working up gave 88 g a white powder with Mw  $3.3 \times 10^4$ . Heating 12 g the powder (as dispersant) with Isopar H (solvent) 250 to  $70^\circ$ , adding Me methacrylate 30, Me acrylate 60,  $\text{CH}_2:\text{C}(\text{Me})\text{COO}(\text{CH}_2)_4\text{N}^+(\text{Et})\text{HCH}_2\text{OPO}-(\text{O})\text{OH}$  10, EtOH 50 and 2,2'-azobis[isovaleronitrile] (I) 1.5, mixing for 2 h, adding I 1.0, mixing at  $75^\circ$  for 3 h, further adding I 0.8 g, mixing at  $80^\circ$  for 3 h, heating to  $100^\circ$  and removing remaining monomers at 200 mm-Hg, cooling, and sieving through a 200-mesh nylon fabric gave a white powder (B) with average diameter of  $0.45 \mu\text{m}$ , Mw  $1 \times 10^5$  and Tg  $40^\circ$ . An oil-based ink useful for lithog. printing plate production was prepared by mixing 50 g the powder (B) with 18 g a pigment dispersion containing poly(dodecyl methacrylate) 10, alkali blue 10 and Shellsol 71 (paraffin oil) 30 g, and 0.15 g Co octenoate and diluting with 1 L Isopar E.

IC ICM C09D011-00

ICS B41J002-01; B41M005-00; C08F002-44; C08F008-00; C08F212-14;  
C08F220-04; C08F220-18; C08F220-28; C08F230-08; C08F291-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IT 61255-17-2P, Divinylbenzene-dodecyl methacrylate copolymer 107533-90-4P,  
 Allyl methacrylate-dodecyl methacrylate copolymer 122324-74-7P,  
 Divinylbenzene-octadecyl methacrylate copolymer 130805-21-9P,  
 Divinylbenzene-tridecyl methacrylate copolymer 130805-26-4P,  
 Divinylbenzene-hexadecyl methacrylate copolymer 134140-17-3P,  
 Divinylbenzene-styrene-tetradecyl methacrylate copolymer 134240-04-3P,  
 Ethylene glycol diacrylate-octadecyl methacrylate copolymer  
 134266-79-8P, Hexadecyl methacrylate-propylene glycol dimethacrylate  
 copolymer 134266-81-2P, 2-Chloroethyl methacrylate-tridecyl  
 methacrylate-trimethylolpropane trimethacrylate copolymer 137564-54-6P,  
 Divinylbenzene-2-hydroxyethyl methacrylate-octadecyl methacrylate  
 copolymer 148532-67-6P, Dodecyl methacrylate-octyl methacrylate-  
 trivinylbenzene copolymer 148532-69-8P, N,N-Dimethylaminoethyl  
 methacrylate-dodecyl methacrylate-ethylene glycol diacrylate copolymer  
 148532-81-4P, Divinyl adipate-hexadecyl methacrylate copolymer  
 161077-96-9P, Divinylbenzene-octadecyl methacrylate-vinyl acetate  
 copolymer 161077-98-1P, Divinylbenzene-octadecyl methacrylate-4-  
 vinylbenzenecarboxylic acid copolymer 161078-01-9P 161078-02-0P,  
 11-(Acrylamido)undecanoic acid-divinylbenzene-octadecyl methacrylate  
 copolymer 308283-76-3P, Docosyl methacrylate-polyethylene glycol  
 diacrylate copolymer 459427-57-7P, 2-Carboxyethyl acrylate-  
 divinylbenzene-octadecyl methacrylate copolymer 459427-58-8P,  
 $\alpha$ -Chloroacrylic acid-divinylbenzene-octadecyl methacrylate copolymer  
 459427-59-9P **524745-38-8P**, Ethylene glycol dimethacrylate-3-  
 (trimethylsilyloxydimethylsilyl)propyl methacrylate copolymer  
**524745-39-9P 524745-41-3P 524745-42-4P**  
**524745-43-5P** 524745-44-6P, Methyl methacrylate-octadecyl  
 methacrylate-propylene glycol diacrylate copolymer  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP  
 (Preparation); USES (Uses)

(dispersants; manufacture of oil-based inks for electrostatic ink-jet  
 printing producing **images** with good clarity and high strength  
 and freedom from nozzle clogging)

IT **524745-38-8P**, Ethylene glycol dimethacrylate-3-  
 (trimethylsilyloxydimethylsilyl)propyl methacrylate copolymer  
**524745-39-9P 524745-41-3P 524745-42-4P**  
**524745-43-5P**

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP  
 (Preparation); USES (Uses)  
 (dispersants; manufacture of oil-based inks for electrostatic ink-jet  
 printing producing **images** with good clarity and high strength  
 and freedom from nozzle clogging)

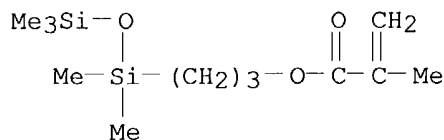
RN 524745-38-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
 3-(pentamethyldisiloxanyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX  
 NAME)

CM 1

CRN 18151-85-4

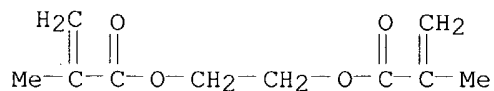
CMF C12 H26 O3 Si2



CM 2

CRN 97-90-5

CMF C10 H14 O4



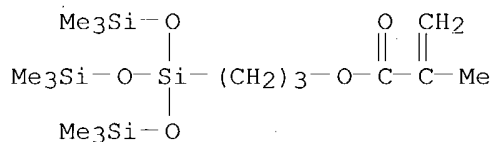
RN 524745-39-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 17096-07-0

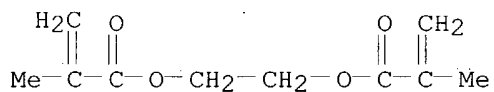
CMF C16 H38 O5 Si4



CM 2

CRN 97-90-5

CMF C10 H14 O4



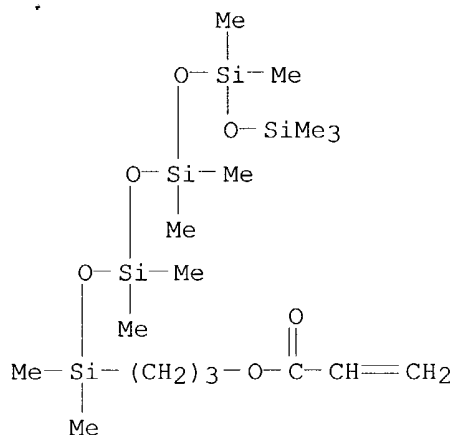
RN 524745-41-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with triethenylbenzene  
and 3-(undecamethylpentasiloxanyl)propyl 2-propenoate (9CI) (CA INDEX  
NAME)

CM 1

CRN 524745-40-2

CMF C17 H42 O6 Si5

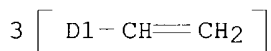


CM 2

CRN 1322-23-2

CMF C12 H12

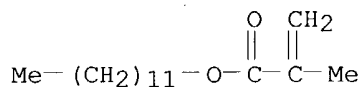
CCI IDS



CM 3

CRN 142-90-5

CMF C16 H30 O2



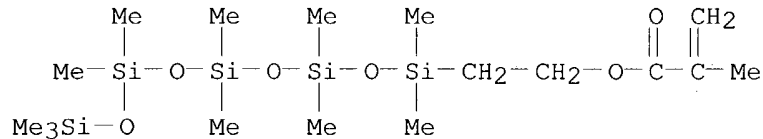
RN 524745-42-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 1,2-ethanediybis(oxy-2,1-ethanediyl) di-2-propenoate and 2-(undecamethylpentasiloxanyl)ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 150624-75-2

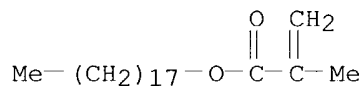
CMF C17 H42 O6 Si5



CM 2

CRN 32360-05-7

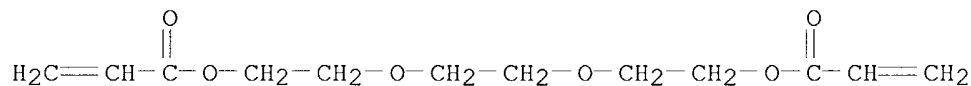
CMF C22 H42 O2



CM 3

CRN 1680-21-3

CMF C12 H18 O6



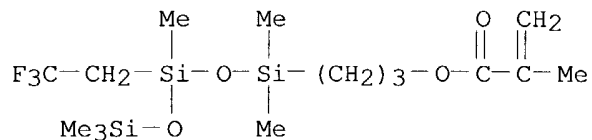
RN 524745-43-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
3-[1,1,3,5,5,5-hexamethyl-3-(2,2,2-trifluoroethyl)trisiloxanyl]propyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 308278-77-5

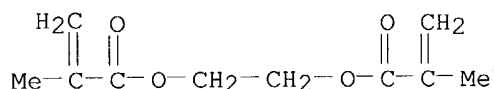
CMF C15 H31 F3 O4 Si3



CM 2

CRN 97-90-5

CMF C10 H14 O4



L77 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:194906 HCAPLUS

DN 138:245584

TI Positive-working photosensitive resin **compositions** and their relief patterns and optical devices having excellent transparency and high refractive index

IN Suwa, Atsushi; Tomikawa, Masao

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003075997	A2	20030312	JP 2002-172430	20020613
PRAI	JP 2001-189398	A	20010622		

AB The comps. developable with alkalis contain (a) alkali-**soluble** polymers, (b) compds. bearing phenolic OH, (c) esterified quinonediazides, and (d)  $\geq 1$  inorg. particles with particle diameter 1-30 nm, selected from Al compds., Si compds., Sn compds., Ti compds., and Zr compds. The polymers may comprise (a1) novolaks and/or resol resins, (a2) homopolymers and/or copolymers of radically polymerizable monomers bearing phenolic OH or CO<sub>2</sub>H, or (a3) polymers based on structure units represented by [COR1(OH)p(CO2R3)mCONHR2(OH)qNH]n (R1 = C $\geq$ 2-containing organic group with valency 2-8; R2 = C $\geq$ 2-containing organic group with valency 2-6; R3 = H, Cl-20 organic group; n = 10-100,000 integer; n = 0, 1, 2; p, q = 0-4 integer; p + q > 0). The comps. are irradiated with UV and thermally treated to give heat-resistant resins relief patterns. Optical devices such as optical waveguides and lenses containing the comps. are also claimed.

IC ICM G03F007-004

ICS C08G069-26; G02B001-04; G03F007-023; G03F007-037

CC 74-4 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38, 73

ST pos photosensitive resin **compn** relief pattern; optical devicepos photosensitive resin **compn**; polyamic **acid** pos**photosensitive compn** optical device; novolak posphotosensitive **compn** optical device; resolic resin posphotosensitive **compn** optical device; polyimide precursor posphotosensitive **compn** optical device; phenolic compd posphotosensitive resin **compn**; quinonediazide ester posphotosensitive resin **compn**; inorg particle pos photosensitiveresin **compn**; polybenzoxazole precursor pos photosensitive**compn** optical device

IT Polyamic acids

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(alkali-**soluble** binder polymer precursor; pos.-working photosensitive resin comps. and their relief patterns and optical devices having excellent transparency and high refractive index)

IT Phenolic resins, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material



- use); PREP (Preparation); USES (Uses)  
 (novolak, alkali-**soluble** binder polymer; pos.-working  
 photosensitive resin compns. and their relief patterns and optical  
 devices having excellent transparency and high refractive index)
- IT Polyamides, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (polyamic acid-, aromatic, fluorine-containing, alkali-**soluble** binder  
 polymer precursor; pos.-working photosensitive resin compns. and their  
 relief patterns and optical devices having excellent transparency and  
 high refractive index)
- IT Fluoropolymers, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (polyamic acid-polyamide-, aromatic, alkali-**soluble** binder polymer  
 precursor; pos.-working photosensitive resin compns. and their relief  
 patterns and optical devices having excellent transparency and high  
 refractive index)
- IT Polyamic acids  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (polyamide-, aromatic, fluorine-containing, alkali-**soluble** binder  
 polymer precursor; pos.-working photosensitive resin compns. and their  
 relief patterns and optical devices having excellent transparency and  
 high refractive index)
- IT Phenolic resins, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (resol, alkali-**soluble** binder polymer; pos.-working  
 photosensitive resin compns. and their relief patterns and optical  
 devices having excellent transparency and high refractive index)
- IT 69088-96-6DP, 4-(3-Aminophenyl)-2-methyl-3-butyn-2-ol, reaction products  
 with hydroxy-containing polyamic acids  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (M-APACB, alkali-**soluble** binder polymer; pos.-working  
 photosensitive resin compns. and their relief patterns and optical  
 devices having excellent transparency and high refractive index)
- IT 14235-81-5DP, 4-Ethynylaniline, reaction products with hydroxy-containing  
 polyamic acids  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (P-APAC, alkali-**soluble** binder polymer; pos.-working  
 photosensitive resin compns. and their relief patterns and optical  
 devices having excellent transparency and high refractive index)
- IT 27029-76-1P, m-Cresol-p-cresol-formaldehyde copolymer **236095-20-8P**  
 261373-50-6P 264604-36-6DP, 4-ethynylbenzeneaminocarbonyloxy-terminated  
 317822-55-2DP, reaction products with 4-ethynylaniline  
**455943-58-5P** 501335-86-0P 501335-87-1P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (alkali-**soluble** binder polymer; pos.-working photosensitive  
 resin compns. and their relief patterns and optical devices having  
 excellent transparency and high refractive index)
- IT 1344-28-1, Alumina, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
 (composite nanoparticle **sol**; pos.-working photosensitive  
 resin compns. and their relief patterns and optical devices having

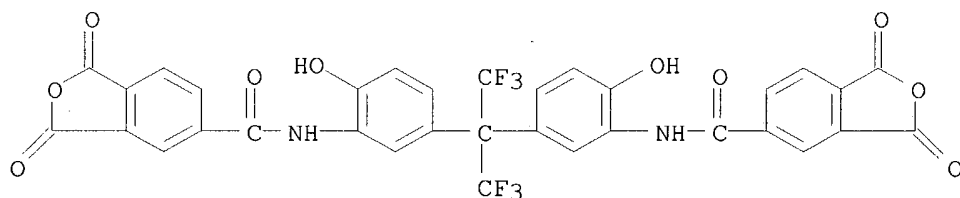
IT 1314-23-4, Zirconia, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (nanoparticle **sol**; pos.-working photosensitive resin compns. and their relief patterns and optical devices having excellent transparency and high refractive index)

IT **236095-20-8P 455943-58-5P**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (alkali-**soluble** binder polymer; pos.-working photosensitive resin compns. and their relief patterns and optical devices having excellent transparency and high refractive index)

RN 236095-20-8 HCAPLUS  
 CN 5-Isobenzofurancarboxamide, N,N'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(6-hydroxy-3,1-phenylene)]bis[1,3-dihydro-1,3-dioxo-, polymer with 4,4'-oxybis[benzenamine] and 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] (9CI) (CA INDEX NAME)

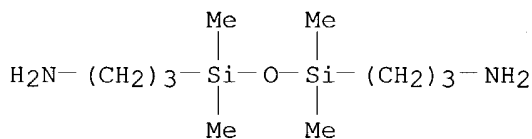
CM 1

CRN 223255-30-9  
 CMF C33 H16 F6 N2 O10



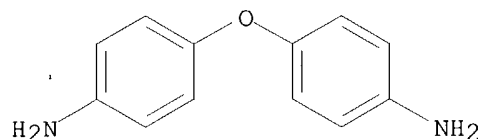
CM 2

CRN 2469-55-8  
 CMF C10 H28 N2 O Si2



CM 3

CRN 101-80-4  
 CMF C12 H12 N2 O

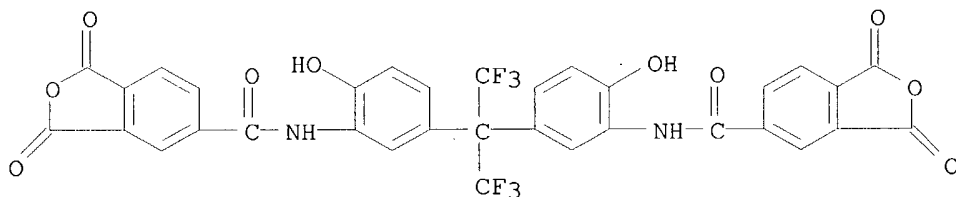


RN 455943-58-5 HCAPLUS

CN 5-Isobenzofurancarboxamide, N,N'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(6-hydroxy-3,1-phenylene)]bis[1,3-dihydro-1,3-dioxo-, polymer with 3-amino-N-(5-amino-2-hydroxyphenyl)benzamide, [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 4,4'-oxybis[benzenamine] and 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] (9CI) (CA INDEX NAME)

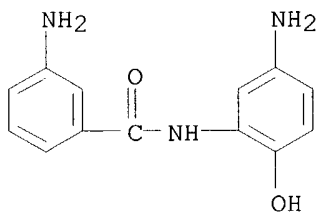
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CRN 223255-30-9  
CMF C33 H16 F6 N2 O10



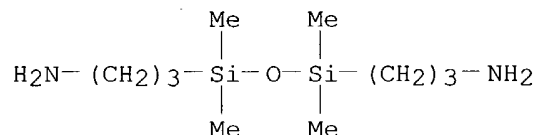
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CRN 27431-43-2  
CMF C13 H13 N3 O2



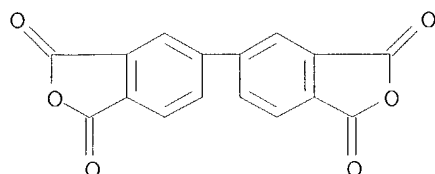
CM 3

CRN 2469-55-8  
CMF C10 H28 N2 O Si2



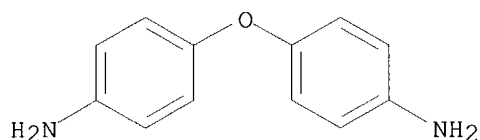
CM 4

CRN 2420-87-3  
CMF C16 H6 O6



CM 5

CRN 101-80-4  
CMF C12 H12 N2 O



L77 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:111378 HCAPLUS  
DN 138:161077  
TI Radiation-sensitive chemically amplified resist resin **composition**  
containing specific nitrogen-containing compound as acid-diffusion-control  
agent  
IN Nagai, Tomoki; Kobayashi, Eiichi; Shimokawa, Tsutomu  
PA JSR Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 25 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003043677	A2	20030213	JP 2001-234136	20010801
PRAI	JP 2001-234136		20010801		
OS	MARPAT 138:161077				
AB	The title <b>composition</b> contains a radiation-sensitive <b>acid-generator</b> and an <b>acid-sensitive</b> alkali <b>solubilizable</b> resin or both alkali <b>solubilizable</b>				

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

resin/alkali-**solubility**-controlling agent for the resin, wherein sulfur compound (R1)(R2)N-S(O)2-R3(R1-3 = H, C1-20 hydrocarbon). The **composition** provides the resists of high resolution, high durability, and good storageability.

IC ICM G03F007-004  
ICS G03F007-038; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST radiation sensitive amplified resist resin **compn**

IT Resists  
(radiation-sensitive, chemical amplified; radiation-sensitive chemical amplified resist resin **composition** containing specific nitrogen-containing compound)

IT 101-83-7, Dicyclohexylamine 63458-90-2, 1H-Imidazole, 1-methyl-, mono(4-methylbenzenesulfonate)  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(acid-diffusion-control agent; radiation-sensitive chemical amplified resist resin **composition** containing specific nitrogen-containing compound)

IT 107-30-2, Methoxymethyl chloride 122-39-4, Diphenylamine, reactions 288-32-4, Imidazole, reactions 716-79-0, 2-Phenylbenzimidazole 4106-18-7, 1H-Benzotriazole, 1-(phenylsulfonyl)- 13578-48-8, 1H-1,2,4-Triazole, 1-(phenylsulfonyl)- 18162-48-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(radiation-sensitive chemical amplified resist resin **composition** containing specific nitrogen-containing compound)

IT 4703-19-9P 15728-50-4P 39830-56-3P 46248-01-5P 95418-60-3DP, p-tert-Butoxystyrene homopolymer, hydrolized 123589-22-0DP, ethoxyethyl ether 200808-68-0P 330576-44-8P 406198-64-9P 428859-16-9P  
**479628-09-6P** 494868-77-8P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(radiation-sensitive chemical amplified resist resin **composition** containing specific nitrogen-containing compound)

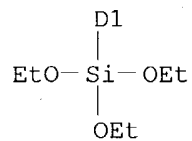
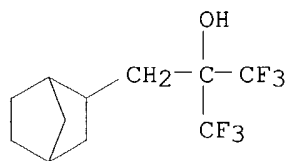
IT **479628-09-6P**  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(radiation-sensitive chemical amplified resist resin **composition** containing specific nitrogen-containing compound)

RN 479628-09-6 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with triethoxymethylsilane and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

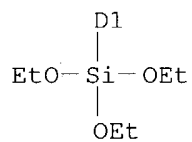
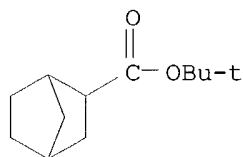
CM 1

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



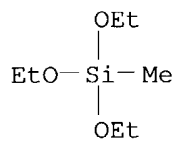
CM 2

CRN 365546-63-0  
CMF C18 H34 O5 Si  
CCI IDS



CM 3

CRN 2031-67-6  
CMF C7 H18 O3 Si



L77 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:4859 HCAPLUS  
DN 138:56869

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

TI Fluoro-functional acid generators and **acid** generator-containing radiation-**sensitive** resin **compositions** suitable for lithography  
 IN Ebata, Satoshi; Yoneda, Eiji; Nagai, Tomoki; Toneri, Tatsuya; Wang, Yong; Iwasawa, Haruo; Nishimura, Yukio  
 PA JSR Corporation, Japan  
 SO Eur. Pat. Appl., 100 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1270553	A2	20030102	EP 2002-14416	20020628
	EP 1270553	A3	20040421		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003173027	A2	20030620	JP 2001-371311	20011205
	US 2003113658	A1	20030619	US 2002-183441	20020628
	CN 1432873	A	20030730	CN 2002-160643	20020628
	JP 2004002252	A2	20040108	JP 2002-189133	20020628
	US 2003170561	A1	20030911	US 2002-309017	20021204
PRAI	JP 2001-200154	A	20010629		
	JP 2001-371311	A	20011205		
	JP 2002-81235	A	20020322		
AB	An acid generator has the general structure R-C(Z1)(Z2)-SO <sub>2</sub> -, where R is a monovalent organic group with fluorine content ≤ 50%, a nitro group, a cyano group or hydrogen, Z1 and Z2 are independently fluorine or a linear or branched C1-C10-perfluoroalkyl group. The acid generators can have the following structures R-C(F)(F)-SO <sub>2</sub> -, R-C(F)(CF <sub>3</sub> )-SO <sub>2</sub> -, R-C(CF <sub>3</sub> )(CF <sub>3</sub> )-SO <sub>2</sub> -, and can be in the form of onium salts or N-sulfonyloxyimides. The acid generators are used in pos.-tone or neg.-tone radiation-sensitive resin compns. based on an alkali- <b>soluble</b> resin comprising an acid-cleavable group, the resin being <b>soluble</b> in alkali when the acid-cleavable group dissocs. Thus, 1,4-butylene-(1-n-butoxynaphthalen-4-yl)sulfonium 1,1,2,2-tetrafluoro-2-(norbomane-2-yl)ethane sulfonate was produced and used as an acid generator in a <b>composition</b> comprising p-acetoxystyrene-p-tert-butoxystyrene-styrene copolymer, 2-phenylbenzimidazole acid diffusion controller and Et lactate solvent.				
IC	ICM C07C309-00 ICS C07C311-00; G03F007-004				
CC	37-6 (Plastics Manufacture and Processing) Section cross-reference(s): 23, 74				
ST	fluoro sulfonic <b>acid</b> generator radiation <b>sensitive</b> resin <b>compn</b>				
IT	Silsesquioxanes RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses) (acid-cleavable group-containing resins; fluoro-functional acid generators and <b>acid</b> generator-containing radiation- <b>sensitive</b> resin compns. suitable for lithog.)				
IT	Lithography (fluoro-functional acid generators and <b>acid</b> generator-containing radiation- <b>sensitive</b> resin compns. suitable for)				
IT	Sulfonic acids, processes RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC				

(Process)  
 (fluoro-functional acid generators and **acid** generator-containing radiation-**sensitive** resin compns. suitable for lithog.)

IT Resists  
 (radiation-**sensitive**; fluoro-functional **acid** generators and **acid** generator-containing radiation-**sensitive** resin compns. suitable for lithog.)

IT Sulfonic acids, preparation  
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (salts, onium salts; fluoro-functional acid generators and **acid** generator-containing radiation-**sensitive** resin compns. suitable for lithog.)

IT 474516-38-6P 479628-12-1P 479628-13-2P 479628-14-3P 479628-16-5P  
 479628-17-6P 479628-19-8P 479628-20-1P  
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (acid generator; fluoro-functional acid generators and **acid** generator-containing radiation-**sensitive** resin compns. suitable for lithog.)

IT 109-92-2DP, Ethyl vinyl ether, reaction products with butoxystyrene-hydroxystyrene copolymer 95418-60-3DP, p-tert-Butoxystyrene homopolymer, hydrolyzed 123589-22-0DP, p-tert-Butoxystyrene-p-hydroxystyrene copolymer, reaction products with Et vinyl ether 147625-42-1P  
 221549-67-3DP, p-Acetoxystyrene-tert-butyl acrylate-styrene copolymer, hydrolyzed 330576-44-8P 340964-24-1P 340964-31-0P 340964-38-7P  
 364736-20-9P 406198-64-9DP, p-Acetoxystyrene-p-tert-butoxystyrene-styrene copolymer, hydrolyzed 479628-08-5P **479628-09-6P**  
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (acid-cleavable group-containing resin; fluoro-functional acid generators and **acid** generator-containing radiation-**sensitive** resin compns. suitable for lithog.)

IT **479628-09-6P**  
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (acid-cleavable group-containing resin; fluoro-functional acid generators and **acid** generator-containing radiation-**sensitive** resin compns. suitable for lithog.)

RN 479628-09-6 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with triethoxymethylsilane and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

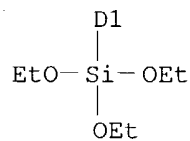
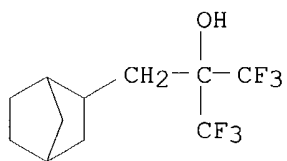
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CRN 365546-74-3

CMF C17 H28 F6 O4 Si

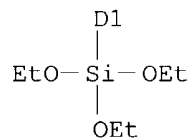
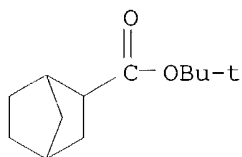
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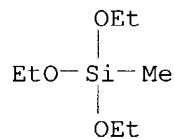
CM 2

CRN 365546-63-0  
CMF C18 H34 O5 Si  
CCI IDS



CM 3

CRN 2031-67-6  
CMF C7 H18 O3 Si



L77 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:802477 HCAPLUS  
DN 137:331070

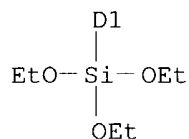
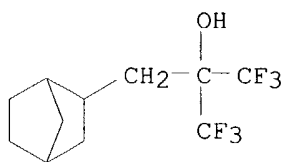
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

TI Alkali-insoluble polysiloxanes having acid-dissociable groups, their  
 manufacture, and radiation-sensitive resin **compositions**  
 IN Iwasawa, Haruo; Hayashi, Akihiro; Nishiyama, Satoru; Shimokawa, Tsutomu  
 PA JSR Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 26 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002308990	A2	20021023	JP 2001-111786	20010410
PRAI	JP 2001-111786		20010410		
AB	The alkali-insol. polysiloxanes have Mw/Mn $\leq 2.5$ (measured by GPC, calculated as polystyrene) and become alkali- <b>soluble</b> when the acid-dissociable groups are dissociated. The polysiloxanes are manufactured by polycondensation of alkoxy-silanes having acid-dissociable groups or their linear or cyclic oligomers in the presence of acidic catalysts. The radiation-sensitive compns. contain the polysiloxanes and radiation- <b>sensitive acid</b> generators. The compns. form resist films showing good transparency, sensitivity, dry-etching resistance, developability, and adhesion to substrates.				
IC	ICM C08G077-14				
CC	ICS C08K005-00; C08L083-06; G03F007-039; G03F007-075; H01L021-027				
	74-5 (Radiation Chemistry, Photochemistry, and <b>Photographic</b> and Other Reprographic Processes)				
	Section cross-reference(s): 37, 38, 76				
IT	365546-62-9DP, trimethylsilyl-terminated <b>365546-85-6P</b> <b>473711-25-0P 473711-26-1P 473711-27-2P</b> <b>473711-28-3P</b>				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manufacture of alkali-insol. polysiloxanes having acid-dissociable groups for radiation-sensitive resists)				
IT	<b>365546-85-6P 473711-25-0P 473711-26-1P</b> <b>473711-27-2P 473711-28-3P</b>				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manufacture of alkali-insol. polysiloxanes having acid-dissociable groups for radiation-sensitive resists)				
RN	365546-85-6 HCAPLUS				
CN	1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and trimethoxymethylsilane (9CI) (CA INDEX NAME)				

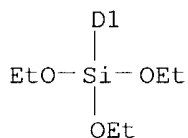
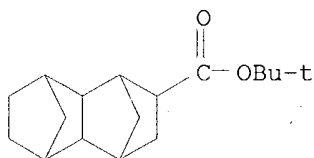
CM 1

CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS



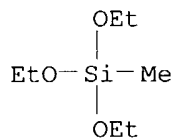
CM 2

CRN 365546-67-4  
CMF C23 H40 O5 Si  
CCI IDS



CM 3

CRN 2031-67-6  
CMF C7 H18 O3 Si



RN 473711-25-0 HCAPLUS  
CN Bicyclo[2.2.1]heptane-2-ethanol, 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)-, polymer with [5(or 6)-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

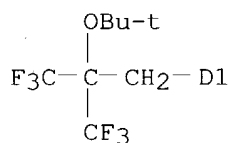
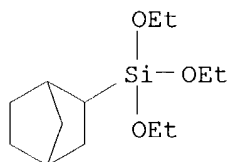
yl]triethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 473711-24-9

CMF C21 H36 F6 O4 Si

CCI IDS

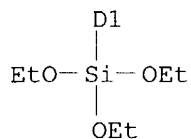
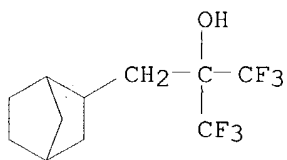


CM 2

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

CCI IDS

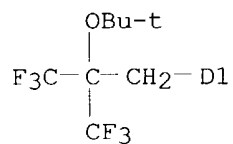
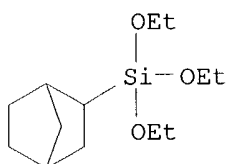


RN 473711-26-1 HCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with [5(or 6)-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

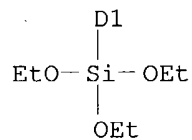
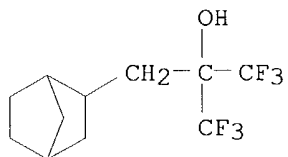
CM 1

CRN 473711-24-9  
 CMF C21 H36 F6 O4 Si  
 CCI IDS



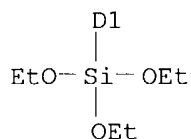
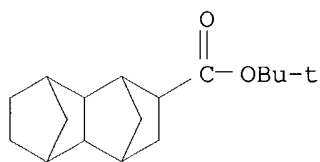
CM 2

CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS



CM 3

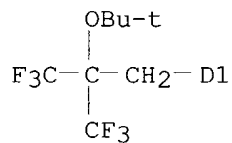
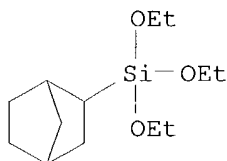
CRN 365546-67-4  
 CMF C23 H40 O5 Si  
 CCI IDS



RN 473711-27-2 HCAPLUS  
 CN 1,4:5,8-Dimethanonaphthalene-2-ethanol, decahydro-6(or  
 7)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)-, polymer with  
 [5(or 6)-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-  
 (trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane and 5(or  
 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept  
 ane-2-ethanol (9CI) (CA INDEX NAME)

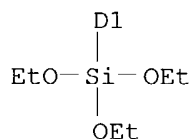
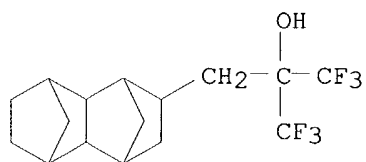
CM 1

CRN 473711-24-9  
 CMF C21 H36 F6 O4 Si  
 CCI IDS



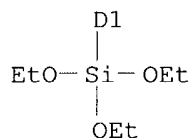
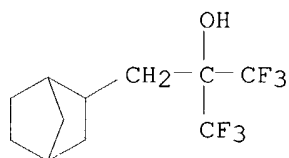
CM 2

CRN 365546-78-7  
 CMF C22 H34 F6 O4 Si  
 CCI IDS



CM 3

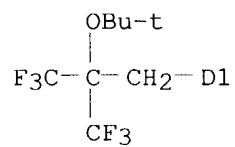
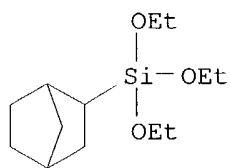
CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



RN 473711-28-3 HCAPLUS  
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with decahydro-6(or 7)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-2-ethanol, [5(or 6)-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 473711-24-9  
CMF C21 H36 F6 O4 Si  
CCI IDS

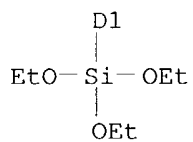
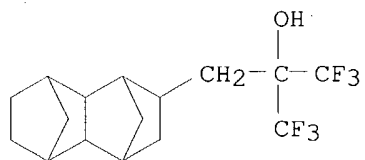


CM 2

CRN 365546-78-7

CMF C22 H34 F6 O4 Si

CCI IDS



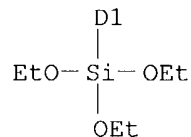
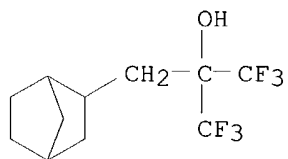
CM 3

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

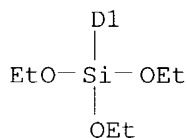
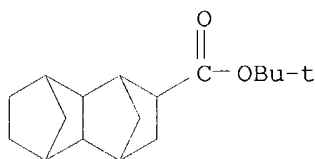
CCI IDS





CM 4

CRN 365546-67-4  
CMF C23 H40 O5 Si  
CCI IDS



L77 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:672468 HCAPLUS  
DN 137:224105  
TI Radiation-sensitive resin **compositions** and their use in pattern  
formation for insulator films in electrotonic parts  
IN Sakamoto, Kei; Kawahara, Kohei  
PA Nippon Zeon Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002249646	A2	20020906	JP 2001-51927	20010227
PRAI	JP 2001-51927		20010227		

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

AB The compns. comprise (A) alkali-**soluble** resins containing 95:5-10:90 weight ratio of (1) alkali-**soluble** cyclic olefin polymers having  $T_g = T$  and (2) alkali-**soluble** precursors giving alkali-**soluble** resins having  $T_g \geq T + 10^\circ$  and/or alkali- **soluble** resins having  $T_g \geq T + 10^\circ$ , (B) CH<sub>2</sub>OR<sub>1</sub> group-contg crosslinking agents (R<sub>1</sub> = H, alkyl), and (C) radiation-**sensitive acid** generators. The compns. are applied on substrates, patterned with radiation, developed with alkaline solns., and heated for pattern formation. The compns. give heat-resistant pattern with high flatness, transparency, resistance to discoloration and solvent, and developability.

IC ICM C08L065-00  
ICS C08K005-00; C08K005-21; C08K005-3492; C08L025-00; C08L079-04; C08L079-08; C08L081-00; G03F007-004; G03F007-038; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38, 76

ST radiation sensitive alkali **sol** cyclic olefin polymer; alkali **sol photoresist** insulator film pattern formation; polyimide precursor alkali **sol photoresist** cyclic polyolefin; polybenzoxazole precursor alkali **sol photoresist** cyclic polyolefin

IT **Photoresists**  
(UV; radiation-sensitive resin compns. and their use in pattern formation for heat-resistant insulator films)

IT 190260-57-2, 2-Piperonyl-bis(4,6-trichloromethyl)-s-triazine  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**acid** generator; radiation-**sensitive** resin compns. and their use in pattern formation for heat-resistant insulator films)

IT 108-31-6DP, Maleic anhydride, reaction products with hydrogenated polyalkenemers 87078-79-3P 131193-23-2DP, 1-Hexene-8-methyl-8-methoxycarbonyltetracyclo[4.4.0.12,5.17,10]-3-dodecene copolymer, hydrogenated, hydrolyzed 134490-17-8DP, 8-Ethyltetracyclo[4.4.0.12,5.17,10]-3-dodecene homopolymer, hydrogenated, maleated 178991-25-8P 247579-45-9DP, hydrogenated, maleated  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(radiation-sensitive resin compns. and their use in pattern formation for heat-resistant insulator films)

IT 2215-89-6, Diphenyl ether-4,4'-dicarboxylic **acid** 7719-09-7, Thionyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(radiation-**sensitive** resin compns. and their use in pattern formation for heat-resistant insulator films)

IT 178991-25-8P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(radiation-sensitive resin compns. and their use in pattern formation for heat-resistant insulator films)

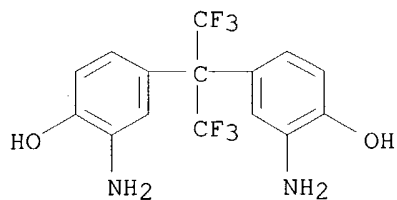
RN 178991-25-8 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

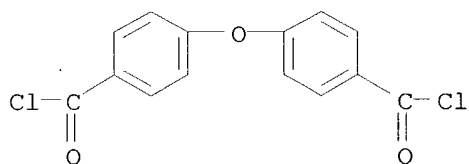
CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9

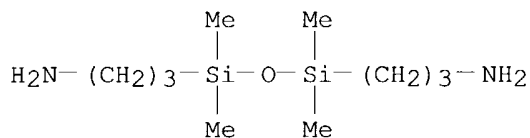
CMF C14 H8 Cl2 O3



CM 3

CRN 2469-55-8

CMF C10 H28 N2 O Si2



L77 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:522489 HCAPLUS

DN 137:85956

TI Substantially transparent aqueous base soluble polymer system for use in 157 nm resist applications

IN Sooriyakumaran, Ratnam; Allen, Robert David; Fenzel-Alexander, Debra

PA USA

SO U.S. Pat. Appl. Publ., 18 pp., Cont.-in-part of U.S. Ser. No. 748,071.

CODEN: USXXCO

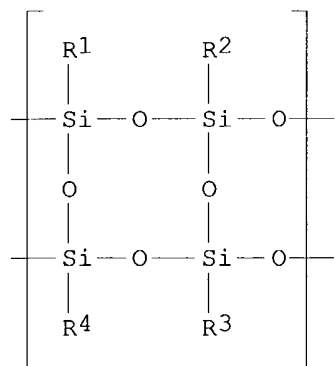
DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002090572	A1	20020711	US 2002-79289	20020219
	US 2002081520	A1	20020627	US 2000-748071	20001221
PRAI	US 2000-748071	A2	20001221		
GI					

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



I

- AB Fluorocarbinol and/or fluoroacid-functionalized silsesquioxane polymers and copolymers of the general formula I (R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> = -(CH<sub>2</sub>)<sub>p</sub>-Q-(CH<sub>2</sub>)<sub>s</sub>-CR<sup>7</sup>R<sup>8</sup>R<sup>9</sup>; p, s = 0-2; Q = arylene, cycloalkylene, alkaryl, and as further defined in the claims; R<sup>7</sup> = H, alkyl, fluoroalkyl; R<sup>8</sup> = fluoroalkyl; R<sup>9</sup> = OH, COOH, acid-cleavable moiety) are provided. The polymers are substantially transparent to UV radiation (UV), i.e., radiation of a wavelength less than 365 nm and are also substantially transparent to deep UV radiation (DUV), i.e., radiation of a wavelength less than 250 nm, including 157 nm, 193 nm and 248 nm radiation, and are thus useful in single and bilayer, pos. and neg., lithog. **photoresist** compns., providing improved sensitivity and resolution A process for using the **composition** to generate resist **images** on a substrate is also provided, i.e., in the manufacture of integrated circuits or the like.
- IC ICM G03F007-038  
ICS G03F007-30; G03F007-11
- NCL 430271100
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 35, 38, 76
- ST UV **photoresist** silsesquioxane fluoropolymer; integrated circuit fabrication UV **photoresist** silsesquioxane polymer
- IT **Photoresists**  
(UV; transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT Silsesquioxanes  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(fluorine-containing; transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT Fluoropolymers, properties  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silsesquioxane-; transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT Photolithography  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT 163916-05-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(dissoln. **inhibitor**; transparent aqueous base **soluble** silsesquioxane polymer for UV-**photoresist**)

IT 441017-23-8P **441017-29-4P**

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)

IT 2247-91-8 10025-78-2, Trichlorosilane 327023-46-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)

IT 417700-14-2DP, hydrolyzed 439143-11-ODP, hydrolyzed 439143-13-2P  
**439143-17-6P** 441017-27-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)

IT 999-97-3DP, 1,1,1,3,3,3-Hexamethyldisilazane, reaction product with poly(2-hydroxy-3,3,3-trifluoropropylsilsesquioxane) 439143-14-3P  
439143-15-4P 439143-16-5DP, reaction product with 1,1,1,3,3,3-hexamethyldisilazane 439143-16-5P 441017-21-6P 441017-25-0P  
441017-26-1P 441017-28-3P

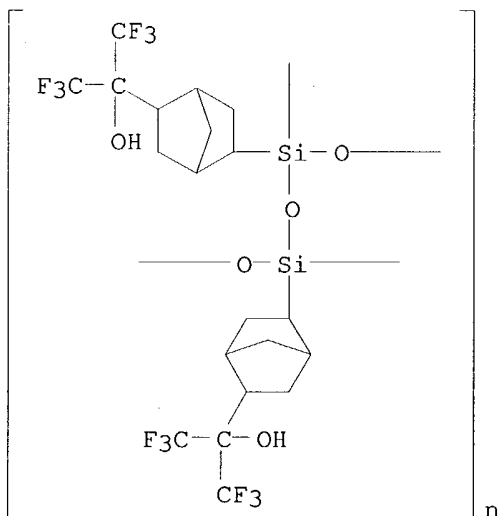
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)

IT **441017-29-4P**

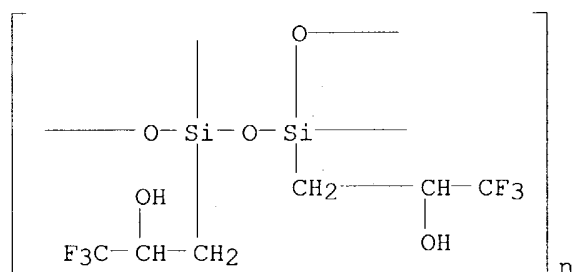
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)

RN 441017-29-4 HCAPLUS

CN Poly[[1,3-bis[5-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]bicyclo[2.2.1]hept-2-yl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)



IT **439143-17-6P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (transparent aqueous base soluble silsesquioxane polymer for UV-  
**photoresist**)  
 RN 439143-17-6 HCAPLUS  
 CN Poly[[1,3-bis(3,3,3-trifluoro-2-hydroxypropyl)-1,3:1,3-  
 disiloxanediyldiene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)



L77 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:488114 HCAPLUS  
 DN 137:70512  
 TI Substantially transparent aqueous base soluble polymer system for use in  
 157 nm resist applications  
 IN Sooriyakumaran, Ratnam; Allen, Robert David; Fenzel-Alexander, Debra  
 PA USA  
 SO U.S. Pat. Appl. Publ., 16 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002081520	A1	20020627	US 2000-748071	20001221
	US 2002090572	A1	20020711	US 2002-79289	20020219
PRAI	US 2000-748071	A2	20001221		

AB Fluorocarbonol and/or fluoroacid functionalized silsesquioxane polymers  
 and copolymers are provided. The polymers are substantially transparent  
 to UV radiation (UV), i.e., radiation of a wavelength less than 365 nm and  
 are also substantially transparent to deep-UV radiation (DUV), i.e.,  
 radiation of a wavelength less than 250 nm, including 157 nm, 193 nm and  
 248 nm radiation, and are thus useful in single and bilayer, pos. and  
 neg., lithog. **photoresist** compns., providing improved  
 sensitivity and resolution A process for using the **composition** to  
 generate resist **images** on a substrate is also provided, i.e., in  
 the manufacture of integrated circuits or the like.

IC ICM G03F007-038

ICS G03F007-26

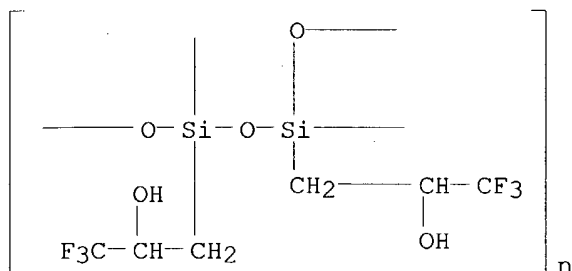
NCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and  
 Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

ST UV **photoresist** silsesquioxane polymer; integrated circuit  
 fabrication UV **photoresist** silsesquioxane polymer

- IT **Photoresists**  
(UV; transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT Photolithography  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT Silsesquioxanes  
RL: TEM (Technical or engineered material use); USES (Uses)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT 163916-05-0  
RL: TEM (Technical or engineered material use); USES (Uses)  
(dissoln. **inhibitor**; transparent aqueous base **soluble** silsesquioxane polymer for UV-**photoresist**)
- IT 2247-91-8 10025-78-2, Trichlorosilane 327023-46-1 439143-13-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT 417700-14-2DP, hydrolyzed 439143-11-ODP, hydrolyzed **439143-17-6P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT 999-97-3DP, 1,1,1,3,3,3-Hexamethyldisilazane, reaction product with poly(2-hydroxy-3,3,3-trifluoropropylsilsesquioxane) 439143-14-3P 439143-15-4P 439143-16-5DP, reaction product with 1,1,1,3,3,3-hexamethyldisilazane **439143-17-6DP**, r.p. with hexamethyldisilazane  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT 25189-00-8, Poly(tert-butyl methacrylate)  
RL: TEM (Technical or engineered material use); USES (Uses)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- IT **439143-17-6P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)
- RN 439143-17-6 HCAPLUS
- CN Poly[[1,3-bis(3,3,3-trifluoro-2-hydroxypropyl)-1,3:1,3-disiloxanediyldiene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)

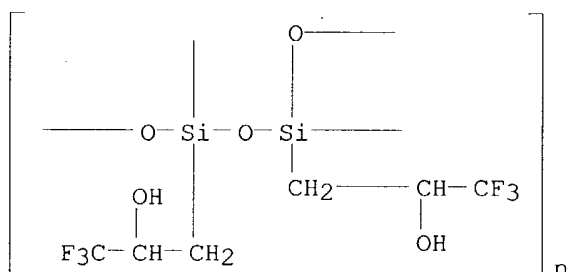


- IT **439143-17-6DP**, r.p. with hexamethyldisilazane

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (transparent aqueous base soluble silsesquioxane polymer for UV-**photoresist**)

RN 439143-17-6 HCAPLUS

CN Poly[[1,3-bis(3,3,3-trifluoro-2-hydroxypropyl)-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)



L77 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:371617 HCAPLUS

DN 135:6996

TI Oil-based inks with good deliverability and image-forming properties for electrostatic ink-jet printing

IN Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 48 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001139860	A2	20010522	JP 2000-261060	20000830
PRAI	JP 1999-246120	A	19990831		

AB The inks dispersed in a nonaq. medium having elec. resistance  $\geq 10^9$   $\Omega$ -cm and dielec. constant  $\leq 3.5$  contain resin particles manufactured by polymerizing solns. containing (A)  $\geq 1$  nonaq. solvent-**soluble** monofunctional monomers which become insol. in the nonaq. solvents after being polymerized, (B)  $\geq 1$  macromonomers ( $M_w \leq 2 \times 10^4$ ) having repeating units containing fluoro and/or silyl groups and terminated at one end with polymerizable double bond, and (C)  $\geq 1$  partially crosslinked and nonaq. solvent-**soluble** polymeric dispersion stabilizers. Thus, vinyl acetate was polymerized with Silaplane FM 0721 (methacrylate- and trimethylsilyl-terminated polydimethylsiloxane) in the presence of octadecyl methacrylate-divinylbenzene copolymer in Isopar H (isoalkanes) and filtered to give particles, which was dispersed with alkali blue dispersion in Isopar E (isoalkane) to give an ink.

IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT 139703-31-4P, Divinylbenzene-Octadecyl methacrylate-thioglycolic acid telomer 139703-33-6P, Divinylbenzene-tridecyl methacrylate-thioglycolic acid telomer 139720-57-3P, Divinylbenzene-Octadecyl methacrylate-3-thiopropionic acid telomer 139720-59-5P 139720-60-8P 139720-61-9P



139720-62-0P 139720-63-1P 139720-64-2P, Octadecyl methacrylate-divinylbenzene-2-mercaptoethylamine telomer 141181-86-4P, Divinylbenzene-dodecyl methacrylate-thioglycolic acid telomer 148532-76-7P, Octadecyl methacrylate-butyl methacrylate-ethylene glycol dimethacrylate-thioglycolic acid telomer 148532-82-5P, Hexadecyl methacrylate-divinyl adipate-thioglycolic acid telomer 159291-22-2P, Trivinylbenzene-dodecyl methacrylate-octyl methacrylate-thioglycolic acid telomer **159291-24-4P** 215672-71-2P 308283-76-3P, Docosyl methacrylate-polyethylene glycol diacrylate copolymer  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(oil-based inks with good deliverability and **image**-forming properties for electrostatic ink-jet printing)

IT 80-62-6DP, polymers with (meth)acrylates 96-33-3DP, polymers with (meth)acrylates 106-91-2DP, polymers with (meth)acrylates 2867-47-2DP, polymers with (meth)acrylates 7582-21-0DP, polymers with (meth)acrylates 80730-17-2DP, polymers with (meth)acrylates 152792-47-7DP, polymers with (meth)acrylates **169045-89-0P** 305814-07-7DP, polymers with (meth)acrylates 305814-10-2DP, polymers with (meth)acrylates 308278-98-0DP, polymers with (meth)acrylates 311807-05-3DP, polymers with (meth)acrylates **311807-06-4P**, Silaplane FM 0721-vinyl acetate graft copolymer 340756-70-9DP, polymers with (meth)acrylates **341031-29-6P** 341031-31-0P 341031-32-1P 341031-33-2P 341031-35-4P 341031-36-5P 341031-38-7P 341031-39-8P **341031-40-1P 341031-41-2P 341031-42-3P 341031-43-4P** 341031-44-5P **341031-45-6P** 341031-46-7P 341505-86-0P 341505-91-7P 341505-93-9P 341505-94-0P 341505-95-1P 341505-96-2P 341505-98-4P 341506-00-1P 341506-01-2P **341506-30-7P** 341506-35-2P **341506-44-3P 341506-46-5P** 341506-51-2P 341506-56-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(oil-based inks with good deliverability and **image**-forming properties for electrostatic ink-jet printing)

IT **159291-24-4P**  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(oil-based inks with good deliverability and **image**-forming properties for electrostatic ink-jet printing)

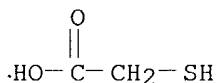
RN 159291-24-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octadecyl ester, telomer with 1,2-ethanediylbis(oxy-2,1-ethanediyl) di-2-propenoate, mercaptoacetic acid and 2-[(trimethoxysilyl)oxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 68-11-1

CMF C2 H4 O2 S

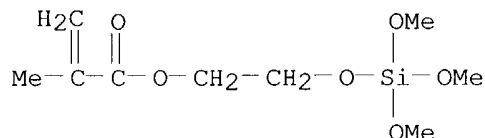


CM 2

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CRN 159291-23-3
CMF (C22 H42 O2 . C12 H18 O6 . C9 H18 O6 Si)x
CCI PMS
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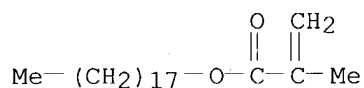
CM 3

CRN 120358-73-8  
CMF C9 H18 O6 Si



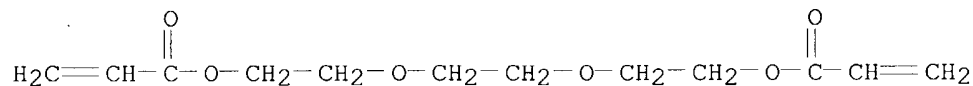
CM 4

CRN 32360-05-7  
CMF C22 H42 O2



CM 5

CRN 1680-21-3  
CMF C12 H18 O6



IT 169045-89-0P 311807-06-4P, Silaplane FM 0721-vinyl  
acetate graft copolymer 341031-29-6P 341031-40-1P  
341031-41-2P 341031-42-3P 341031-43-4P  
341031-45-6P 341506-30-7P 341506-44-3P  
341506-46-5P

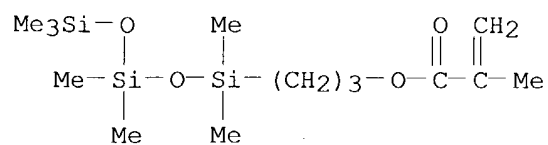
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(oil-based inks with good deliverability and **image**-forming properties for electrostatic ink-jet printing)

RN 169045-89-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(heptamethyltrisiloxanyl)propyl ester,  
polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate and  
2-propenoic acid, graft (9CI) (CA INDEX NAME)

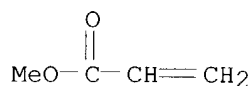
CM 1

CRN 150624-86-5  
CMF C14 H32 O4 Si3



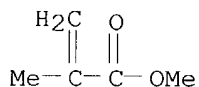
CM 2

CRN 96-33-3  
CMF C4 H6 O2



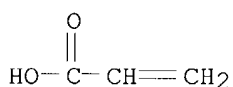
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

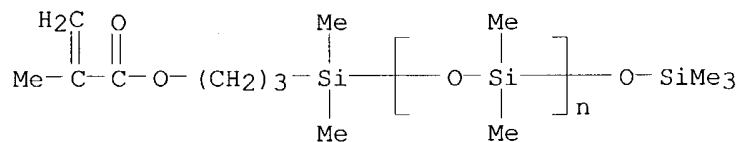
CRN 79-10-7  
CMF C3 H4 O2



RN 311807-06-4 HCAPLUS  
CN Acetic acid ethenyl ester, polymer with  $\alpha$ -[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl)silyl]- $\omega$ -[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)], graft (9CI) (CA INDEX NAME)

CM 1

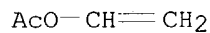
CRN 123109-42-2  
CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2  
CCI PMS



CM 2

CRN 108-05-4

CMF C4 H6 O2



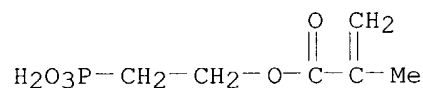
RN 341031-29-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate, 2,2,3,3,4,4,5,5,5-nonafluoropentyl 2-propenoate, 2-phosphonoethyl 2-methyl-2-propenoate and 3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 80730-17-2

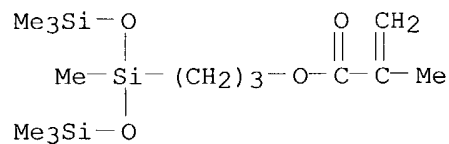
CMF C6 H11 O5 P



CM 2

CRN 19309-90-1

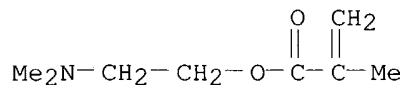
CMF C14 H32 O4 Si3



CM 3

CRN 2867-47-2

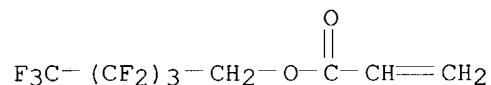
CMF C8 H15 N O2



CM 4

CRN 308-26-9

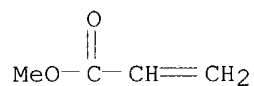
CMF C8 H5 F9 O2



CM 5

CRN 96-33-3

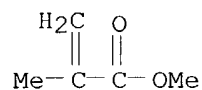
CMF C4 H6 O2



CM 6

CRN 80-62-6

CMF C5 H8 O2



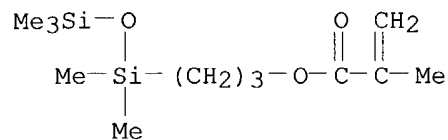
RN 341031-40-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl 2-propenoate, 3-(pentamethyldisiloxanyl)propyl 2-methyl-2-propenoate and 2-propenoic acid, graft (9CI) (CA INDEX NAME)

CM 1

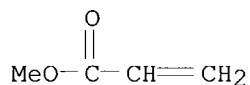
CRN 18151-85-4

CMF C12 H26 O3 Si2



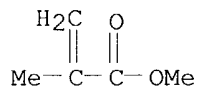
CM 2

CRN 96-33-3  
CMF C4 H6 O2



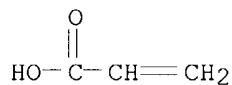
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

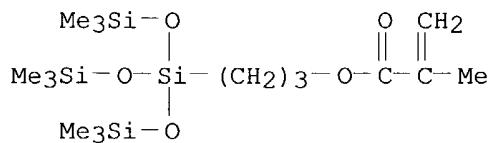
CRN 79-10-7  
CMF C3 H4 O2



RN 341031-41-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl 2-propenoate, 2-propenoic acid and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

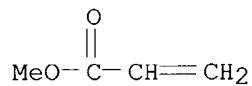
CM 1

CRN 17096-07-0  
CMF C16 H38 O5 Si4



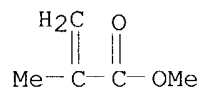
CM 2

CRN 96-33-3  
CMF C4 H6 O2



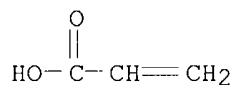
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

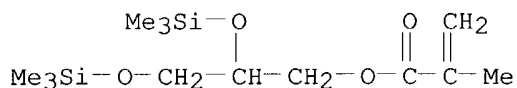
CRN 79-10-7  
CMF C3 H4 O2



RN 341031-42-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2,3-bis[(trimethylsilyl)oxy]propyl ester, polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate and 2-propenoic acid, graft (9CI) (CA INDEX NAME)

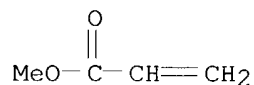
CM 1

CRN 143987-99-9  
CMF C13 H28 O4 Si2



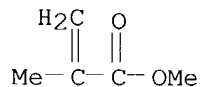
CM 2

CRN 96-33-3  
CMF C4 H6 O2



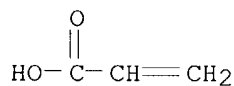
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

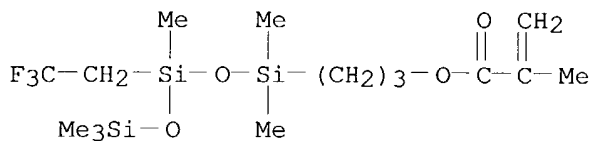
CRN 79-10-7  
CMF C3 H4 O2



RN 341031-43-4 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-[1,1,3,5,5,5-hexamethyl-3-(2,2,2-trifluoroethyl)trisiloxanyl]propyl ester, polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate and 2-propenoic acid, graft (9CI) (CA INDEX NAME)

CM 1

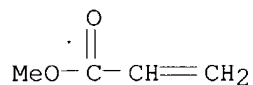
CRN 308278-77-5  
CMF C15 H31 F3 O4 Si3



CM 2

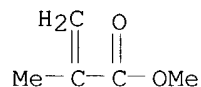
CRN 96-33-3  
CMF C4 H6 O2





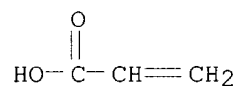
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

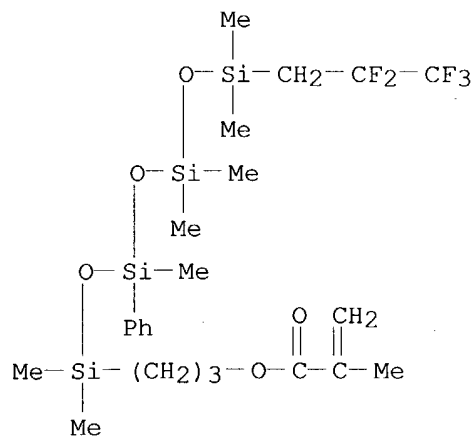
CRN 79-10-7  
CMF C3 H4 O2



RN 341031-45-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-[1,1,3,5,5,7,7-heptamethyl-7-(2,2,3,3,3-pentafluoropropyl)-3-phenyltetrasiloxanyl]propyl ester, polymer with methyl 2-methyl-2-propenoate, methyl 2-propenoate and 2-propenoic acid, graft (9CI) (CA INDEX NAME)

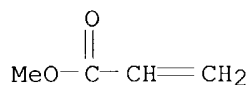
CM 1

CRN 312261-18-0  
CMF C23 H39 F5 O5 Si4



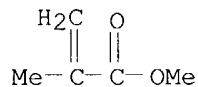
CM 2

CRN 96-33-3  
CMF C4 H6 O2



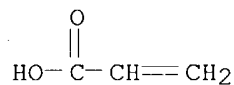
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

CRN 79-10-7  
CMF C3 H4 O2

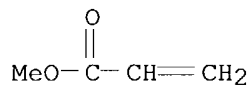


RN 341506-30-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, dodecyl ester, telomer with mercaptoacetic acid and triethenylbenzene, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with 2-mercaptoethanol telomer with 2-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]ethyl 2-methyl-2-propenoate and 2,2,2-trifluoroethyl 2-methyl-2-propenoate 2-cyano-2-propenoate, methyl 2-methyl-2-propenoate, methyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

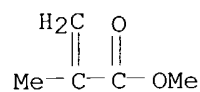
CM 1

CRN 96-33-3  
CMF C4 H6 O2



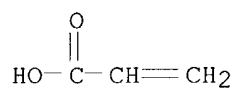
CM 2

CRN 80-62-6  
CMF C5 H8 O2



CM 3

CRN 79-10-7  
CMF C3 H4 O2

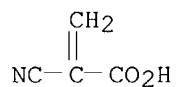


CM 4

CRN 341506-29-4  
CMF (C13 H30 O4 Si3 . C6 H7 F3 O2)x . x C4 H3 N O2 . C2 H6 O S

CM 5

CRN 15802-18-3  
CMF C4 H3 N O2

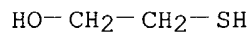


CM 6

CRN 341506-28-3  
CMF (C13 H30 O4 Si3 . C6 H7 F3 O2)x . C2 H6 O S

CM 7

CRN 60-24-2  
CMF C2 H6 O S



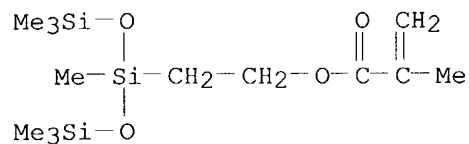
CM 8

CRN 341506-27-2  
CMF (C13 H30 O4 Si3 . C6 H7 F3 O2)x

CCI PMS

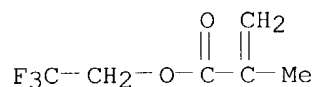
CM 9

CRN 341506-26-1  
CMF C13 H30 O4 Si3



CM 10

CRN 352-87-4  
CMF C6 H7 F3 O2

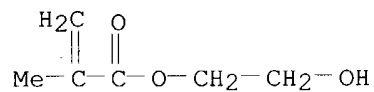


CM 11

CRN 324574-61-0  
CMF (C16 H30 O2 . C12 H12)x . x C6 H10 O3 . C2 H4 O2 S

CM 12

CRN 868-77-9  
CMF C6 H10 O3

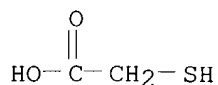


CM 13

CRN 217322-98-0  
CMF (C16 H30 O2 . C12 H12)x . C2 H4 O2 S

CM 14

CRN 68-11-1  
CMF C2 H4 O2 S

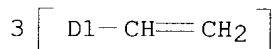


CM 15

CRN 134140-19-5  
CMF (C16 H30 O2 . C12 H12)x  
CCI PMS

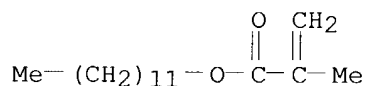
CM 16

CRN 1322-23-2  
CMF C12 H12  
CCI IDS



CM 17

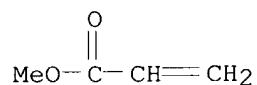
CRN 142-90-5  
CMF C16 H30 O2



RN 341506-44-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1-methyl-1,2-ethanediyl ester, telomer with hexadecyl 2-methyl-2-propenoate and mercaptoacetic acid, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with 3-mercaptopropanoic acid telomer with 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, methyl 2-methyl-2-propenoate, methyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

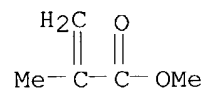
CM 1

CRN 96-33-3  
CMF C4 H6 O2



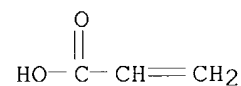
CM 2

CRN 80-62-6  
CMF C5 H8 O2



CM 3

CRN 79-10-7  
CMF C3 H4 O2

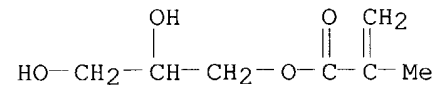


CM 4

CRN 312260-93-8  
CMF (C16 H38 O5 Si4)x . x C7 H12 O4 . C3 H6 O2 S

CM 5

CRN 5919-74-4  
CMF C7 H12 O4

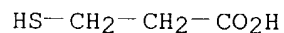


CM 6

CRN 312260-92-7  
CMF (C16 H38 O5 Si4)x . C3 H6 O2 S

CM 7

CRN 107-96-0  
CMF C3 H6 O2 S

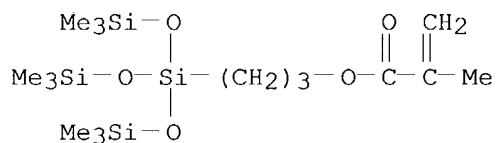


CM 8

CRN 28502-32-1  
CMF (C16 H38 O5 Si4)x  
CCI PMS

CM 9

CRN 17096-07-0  
CMF C16 H38 O5 Si4

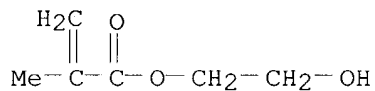


CM 10

```
CRN 218459-61-1
CMF (C20 H38 O2 . C11 H16 O4)x . x C6 H10 O3 . C2 H4 O2 S
```

CM 11

CRN 868-77-9  
CMF C6 H10 O3

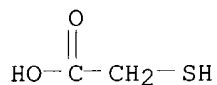


CM 12

CRN 217323-01-8  
CMF (C20 H38 O2 . C11 H16 O4)x . C2 H4 O2 S

CM 13

CRN 68-11-1  
CMF C2 H4 O2 S

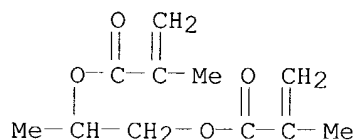


CM 14

CRN 136998-49-7  
CMF (C20 H38 O2 . C11 H16 O4)x  
CCI PMS

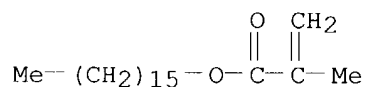
CM 15

CRN 7559-82-2  
CMF C11 H16 O4



CM 16

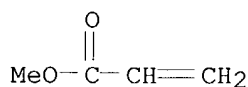
CRN 2495-27-4  
CMF C20 H38 O2



RN 341506-46-5 HCAPLUS  
CN Hexanedioic acid, diethenyl ester, telomer with butyl 2-methyl-2-propenoate, dodecyl 2-methyl-2-propenoate and mercaptoacetic acid, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with 3-[1,1,3,5,5,5-hexamethyl-3-(2,2,2-trifluoroethyl)trisiloxanyl]propyl 2-methyl-2-propenoate telomer with 3-mercaptopropanoic acid 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, methyl 2-methyl-2-propenoate, methyl 2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

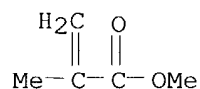
CRN 96-33-3  
CMF C4 H6 O2



CM 2

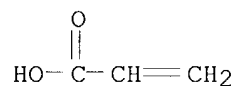
CRN 80-62-6  
CMF C5 H8 O2





CM 3

CRN 79-10-7  
CMF C3 H4 O2

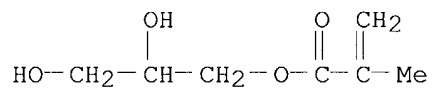


CM 4

CRN 312261-02-2  
CMF (C15 H31 F3 O4 Si3)x . x C7 H12 O4 . C3 H6 O2 S

CM 5

CRN 5919-74-4  
CMF C7 H12 O4

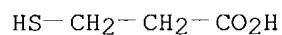


CM 6

CRN 312261-01-1  
CMF (C15 H31 F3 O4 Si3)x . C3 H6 O2 S

CM 7

CRN 107-96-0  
CMF C3 H6 O2 S



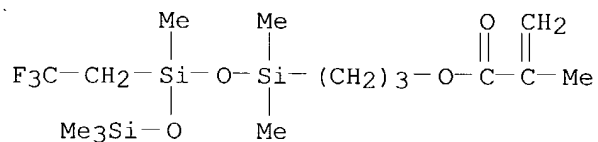
CM 8

CRN 312261-00-0  
CMF (C15 H31 F3 O4 Si3)x  
CCI PMS

CM 9

CRN 308278-77-5

CMF C15 H31 F3 O4 Si3



CM 10

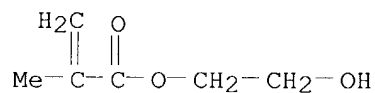
CRN 218459-65-5

CMF (C16 H30 O2 . C10 H14 O4 . C8 H14 O2)x . x C6 H10 O3 . C2 H4 O2 S

CM 11

CRN 868-77-9

CMF C6 H10 O3



CM 12

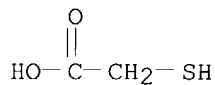
CRN 218459-64-4

CMF (C16 H30 O2 . C10 H14 O4 . C8 H14 O2)x . C2 H4 O2 S

CM 13

CRN 68-11-1

CMF C2 H4 O2 S



CM 14

CRN 218459-63-3

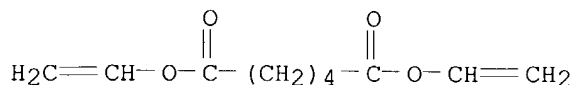
CMF (C16 H30 O2 . C10 H14 O4 . C8 H14 O2)x

CCI PMS

CM 15

CRN 4074-90-2

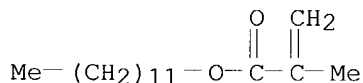
CMF C10 H14 O4



CM 16

CRN 142-90-5

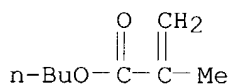
CMF C16 H30 O2



CM 17

CRN 97-88-1

CMF C8 H14 O2



L77 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:124295 HCAPLUS

DN 134:185942

TI **Photosensitive** heat-resistant polyamic acid  
or hydroxy-substituted polyamide **composition** and semiconductor  
device using the **composition**

IN Okuda, Ryoji; Tomikawa, Masao

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001049118	A2	20010220	JP 1999-227813	19990811
PRAI	JP 1999-227813		19990811		

AB The **composition** contains a polymer based on repeating unit  
[C(O)R1(OH)p(CO2R3)nCONHR2(OH)qNH]m (R1 = C≥2 2-6-valent organic  
group; R3 = H, alkali metal ion, ammonium ion, C1-20 organic group; m =  
3-100,000; n = 0-2; p, q = 0-4; p + q > 0) and a **photosensitive**  
**acid**-generating agent and/or a **solubility** controller whose  
thermal weight degradation is ≤30% at 200-350°. The semiconductor  
device is that using the **composition** as an intermediate elec.  
insulating layer or surface-protecting layer showing retention of phys.  
properties, e.g., mech. strength, adhesion to substrate, etc., instead of  
the presence of the acid-generating agent and/or the **solubility**  
controller.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IC ICM C08L079-08  
ICS C08G073-10; C08K005-28; G03F007-004; G03F007-022; G03F007-037;  
H01L021-027

CC 74-4 (Radiation Chemistry, Photochemistry, and **Photographic** and  
Other Reprographic Processes)  
Section cross-reference(s): 38, 76

ST **photosensitive** heat **resistant** resin semiconductor  
device; polyamic **acid compn photosensitive**  
polyimide semiconductor; hydroxy substituted polyamide polybenzoxazole  
photosensitive semiconductor; thermal degrdn regulated acid generator;  
**soly** controller thermal degrdn regulated

IT Heat-**resistant** materials  
**Photoimaging** materials  
Thermal decomposition  
(**photosensitive** heat-**resistant** resin **compn**  
. containing acid-generating agent and/or **solubility** controller  
showing regulated thermal degradation)

IT Polyamic acids  
Polybenzoxazoles  
RL: DEV (Device component use); USES (Uses)  
(**photosensitive** heat-**resistant** resin **compn**  
. containing acid-generating agent and/or **solubility** controller  
showing regulated thermal degradation)

IT Memory devices  
Semiconductor device fabrication  
(**photosensitive** heat-**resistant** resin **compn**  
. containing acid-generating agent and/or **solubility** controller  
showing regulated thermal degradation for)

IT 136830-38-1  
RL: MOA (Modifier or additive use); USES (Uses)  
(MG 300; **photosensitive** heat-**resistant** resin  
**composition** containing acid-generating agent and/or **solubility**  
controller showing regulated thermal degradation)

IT 112492-59-8P 113339-21-2P 220426-92-6P **220765-69-5P**  
223432-55-1P  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(**photosensitive** heat-**resistant** resin **compn**  
. containing acid-generating agent and/or **solubility** controller  
showing regulated thermal degradation)

IT 151319-83-4  
RL: MOA (Modifier or additive use); USES (Uses)  
(**photosensitive** heat-**resistant** resin **compn**  
. containing acid-generating agent and/or **solubility** controller  
showing regulated thermal degradation)

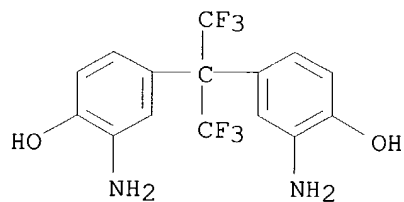
IT **220765-69-5P**  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
(Preparation); USES (Uses)  
(**photosensitive** heat-**resistant** resin **compn**  
. containing acid-generating agent and/or **solubility** controller  
showing regulated thermal degradation)

RN 220765-69-5 HCAPLUS

CN 1,2,4-Benzenetricarbonyl trichloride, polymer with 4,4'-  
oxybis[benzenamine], 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-  
propanamine] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-  
aminophenol] (9CI) (CA INDEX NAME)

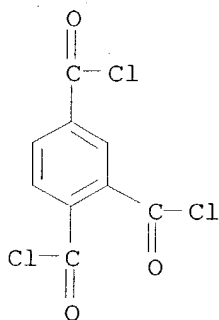
CM 1

CRN 83558-87-6  
CMF C15 H12 F6 N2 O2



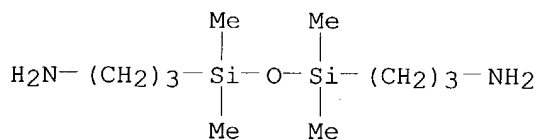
CM 2

CRN 3867-55-8  
CMF C9 H3 Cl3 O3



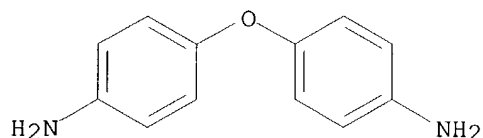
CM 3

CRN 2469-55-8  
CMF C10 H28 N2 O Si2



CM 4

CRN 101-80-4  
CMF C12 H12 N2 O



L77 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:749076 HCAPLUS

DN 133:327664

TI Positive-working radiation-sensitive **composition** and resist pattern formation using same

IN Nio, Hiroyuki; Tamura, Kazutaka; Obayashi, Gentaro

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000298346	A2	20001024	JP 1999-106857	19990414
PRAI	JP 1999-106857		19990414		

AB The title radiation-sensitive **composition** contains (A) a polymer having structural units CH<sub>2</sub>CX(COA) and CH<sub>2</sub>CY(CO<sub>2</sub>G) (X = halo or CN; Y = C1-4 alkyl, halo, CN; A = organic group having ≥1 silyl group; G = C1-10 haloalkyl, haloaryl, haloaralkyl) in which A is an organic group that is cleaved by the action of acid to form an alkali-**soluble** group and (B) an acid generator generating an acid by irradiation with radiation. The **composition** is coated on a substrate, dried, patternwise exposed, and developed to form a pattern. The **composition** useful for production of semiconductor integrated circuits and masks for lithog. shows high sensitivity and provides sub-quarter micron patterns.

IC ICM G03F007-039

ICS G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38

IT Electron beam resists

(radiation-**sensitive** resist **composition** containing **acid**-decomposable polymer with silyl group and acid generator)

IT 302806-87-7P **302806-90-2P** 302806-93-5P 302806-96-8P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(radiation-**sensitive** resist **composition** containing **acid**-decomposable polymer with silyl group and acid generator)

IT 66003-78-9, Triphenylsulfonium triflate

RL: TEM (Technical or engineered material use); USES (Uses)

(radiation-**sensitive** resist **composition** containing **acid**-decomposable polymer with silyl group and acid generator)

IT **302806-90-2P**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(radiation-**sensitive** resist **composition** containing **acid**-decomposable polymer with silyl group and acid generator)

RN 302806-90-2 HCAPLUS

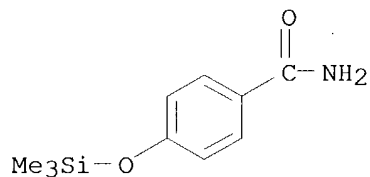
CN 2-Propenoic acid, 2-bromo-, polymer with 2,2,2-trifluoroethyl

2-methyl-2-propenoate and 4-[(trimethylsilyl)oxy]benzamide (9CI) (CA INDEX NAME)

CM 1

CRN 302806-89-9

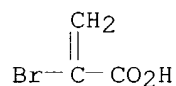
CMF C10 H15 N O2 Si



CM 2

CRN 10443-65-9

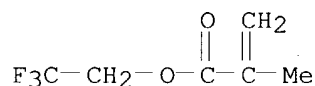
CMF C3 H3 Br O2



CM 3

CRN 352-87-4

CMF C6 H7 F3 O2



L77 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:686606 HCAPLUS  
 DN 133:274245  
 TI Resist pattern-forming materials and pattern formation process thereof  
 IN Kishimura, Shinji; Katsuyama, Akiko; Sasago, Masaru  
 PA Matsushita Electric Industrial Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000267279	A2	20000929	JP 1999-66225	19990312
	JP 3299214	B2	20020708		
	US 6444395	B1	20020903	US 2000-523192	20000310

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

PRAI JP 1999-66225 A 19990312

AB The pattern-forming materials, i.e. resists, contain base resins containing groups decomposable with acids to form active methylene groups and photoacid generators. Also disclosed is a material, i.e. resists, containing alkali-**soluble** base resins, dissoln. **inhibitors** for the resins and decomposable with acids to form active methylene groups, and photoacid generators. The base resins may be acrylic resins, styrenic resins, novolaks, or polyolefins. The resists are applied on substrate, pattern wisely exposed to 1-190 nm light, and developed with alkaline developers. The light may be Xe2, F2, Kr2, ArKr, or Ar2 laser, or soft x-ray. The materials offer resist patterns with good shapes.

IC ICM G03F007-039

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38, 76

IT 28551-71-5 28551-72-6 59269-51-1, Poly(vinylphenol)

**297172-84-0** 297172-87-3 297172-90-8 **297172-92-0**

**297172-94-2** 297172-96-4

RL: TEM (Technical or engineered material use); USES (Uses)

(base resins; resist pattern-forming materials and their pattern formation process)

IT **297172-84-0** **297172-92-0** **297172-94-2**

RL: TEM (Technical or engineered material use); USES (Uses)

(base resins; resist pattern-forming materials and their pattern formation process)

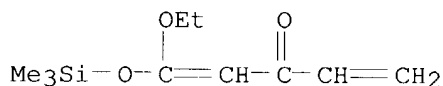
RN 297172-84-0 HCAPLUS

CN 4-Pentenoic acid, 3-oxo-, ethyl ester, polymer with 1-ethoxy-1-[(trimethylsilyl)oxy]-1,4-pentadien-3-one (9CI) (CA INDEX NAME)

CM 1

CRN 297172-83-9

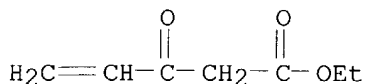
CMF C10 H18 O3 Si



CM 2

CRN 22418-80-0

CMF C7 H10 O3



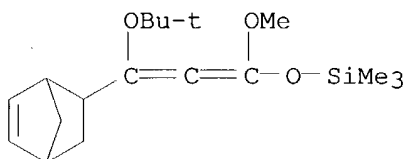
RN 297172-92-0 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-propanoic acid,  $\beta$ -oxo-, methyl ester, polymer with [[3-bicyclo[2.2.1]hept-5-en-2-yl-3-(1,1-dimethylethoxy)-1-methoxy-1,2-propadienyl]oxy]trimethylsilane and 2,5-furandione (9CI) (CA INDEX NAME)



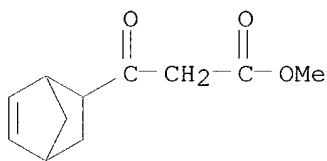
CM 1

CRN 297172-91-9  
CMF C18 H30 O3 Si



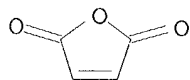
CM 2

CRN 37734-07-9  
CMF C11 H14 O3



CM 3

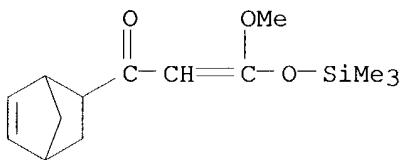
CRN 108-31-6  
CMF C4 H2 O3



RN 297172-94-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, polymer with 1-bicyclo[2.2.1]hept-5-en-2-yl-3-methoxy-3-[(trimethylsilyl)oxy]-2-propen-1-one and 2,5-furandione (9CI)  
(CA INDEX NAME)

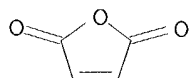
CM 1

CRN 297172-93-1  
CMF C14 H22 O3 Si



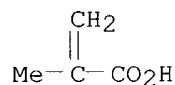
CM 2

CRN 108-31-6  
CMF C4 H2 O3



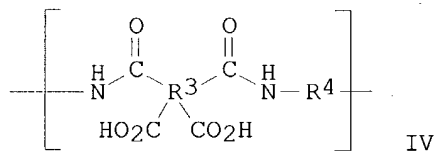
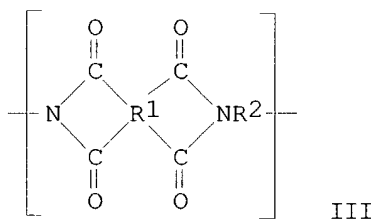
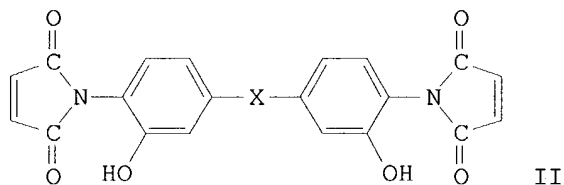
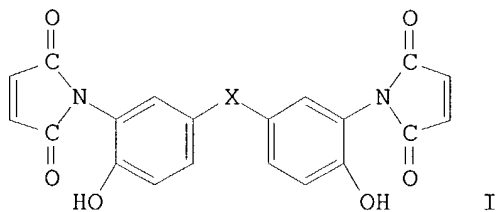
CM 3

CRN 79-41-4  
CMF C4 H6 O2



L77 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1994:446638 HCAPLUS  
DN 121:46638  
TI Preparation of bismaleimide compounds and photosensitive  
**composition** containing them  
IN Ooba, Masayuki; Mataka, Shigeru  
PA Tokyo Shibaura Electric Co, Japan  
SO Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 06073003	A2	19940315	JP 1992-229791	19920828
PRAI	JP 1992-229791		19920828		
GI					



- AB Bismaleimide derivs. (I; X = single bond, bivalent organic group) are prepared. A photosensitive **composition** contains alkali-soluble bismaleimide derivs. I and at least each one of polyimides and polyamic acids having the repeating unit represented by general formula II and III (wherein R1, R2 = tetravalent organic group; R3, R4 = bivalent organic group), resp. This photosensitive **composition** is alkali-developable and can form polyimide film patterns for surface-protective (passivation) films or interlayer insulation films of semiconductor devices with excellent adhesiveness to a substrate. Thus, maleic anhydride was slowly added to a solution of 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane in acetone followed by stirring at room temperature for 3 h to give an acetone solution of bis(maleamic acid). This solution was refluxed with Ac<sub>2</sub>O in the presence of Co(OAc)<sub>2</sub> and Et<sub>3</sub>N to give dihydroxybismaleimide diacetate followed by deacetylation with concentrated H<sub>2</sub>SO<sub>4</sub> in DMF to give dihydroxybismaleimide I [X = C(CF<sub>3</sub>)<sub>2</sub>] (I-a). A photosensitive **composition** containing I-a, polyimide [3,3',4,4'-benzophenonetetracarboxylic dianhydride-2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane copolymer], and polyamic acid [3,3',4,4'-benzophenonetetracarboxylic dianhydride-1,3-bis(3-aminopropyl)-1,1,3,3-tetramethyldisiloxane-4,4'-diaminodiphenyl ether-pyromellitic anhydride copolymer] in N-methylpyrrolidone was spin-coated on a Si wafer to form a resin layer of 5.1 μm thickness which was exposed with UV light through a mask and developed with aqueous 0.2 weight% Me<sub>4</sub>NOH to give a fine relief pattern of 4 μm line width. After heating the pattern at 90, 150, 250, and 350° for 30 min for cyclization of polyamic acids, the polyimide film with line resolution 4 μm was obtained.
- IC ICM C07D207-452  
ICS C08K005-28; C08K005-3415; C08L079-08; G03F007-008; G03F007-037
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 27, 35

ST bismaleimide photosensitive **compn**; maleimidophenol  
 photosensitive **compn**; alkali developable photosensitive  
**compn** polyimide; polyamic **acid** alkali developable  
**photosensitive compn**; semiconductor device  
 photosensitive **compn**

IT Polyamic acids  
 Polyimides, uses  
 RL: USES (Uses)  
 (alkali-developable photosensitive **composition** containing  
 bismaleimdobisphenol and, for manufacturing semiconductor device)

IT Polyimides, preparation  
 RL: PREP (Preparation)  
 (from alkali-developable photosensitive **composition** containing  
 bismaleimdobisphenol, for manufacturing semiconductor device)

IT Photoimaging **compositions** and processes  
 (relief, containing bismaleimidobisphenols, polyamic acids, and polyimides,  
 for semiconductor manufacturing)

IT 84329-58-8P, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(3-  
 aminopropyl)-1,1,3,3-tetramethyldisiloxane-4,4'-diaminodiphenyl  
 ether-pyromellitic anhydride copolymer 120839-22-7P,  
 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis(3-amino-4-  
 hydroxyphenyl)hexafluoropropane-pyromellitic anhydride copolymer  
 121333-87-7P, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis(3-  
 amino-4-hydroxyphenyl)hexafluoropropane copolymer 121334-11-0P  
 122983-63-5P 155954-34-0P 155954-35-1P 155954-38-4P,  
 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-dihydroxy-4,4'-  
 diaminobiphenyl-pyromellitic anhydride copolymer 155954-39-5P,  
 2,2-Bis[4-(4-aminophenoxy)phenyl]propane-1,3-bis(3-aminopropyl)-1,1,3,3-  
 tetramethyldisiloxane-3,3',4,4'-(diphenyl sulfone)tetracarboxylic  
 dianhydride copolymer **155954-40-8P**, 3,3',4,4'-  
 Benzophenonetetracarboxylic dianhydride-2,2-bis[4-(4-  
 aminophenoxy)phenyl]hexafluoropropane-1,3-bis(3-aminopropyl)-1,1,3,3-  
 tetramethyldisiloxane-4,4'-diaminodiphenyl ether-pyromellitic anhydride  
 copolymer **155954-41-9P**, 3,3',4,4'-Benzophenonetetracarboxylic  
 dianhydride-2,2-bis[4-(4-aminophenoxy)phenyl]propane-1,3-bis(3-  
 aminopropyl)-1,1,3,3-tetramethyldisiloxane-4,4'-diaminodiphenyl  
 ether-2,2-(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer  
 RL: PREP (Preparation)  
 (preparation of, alkali-developable photosensitive **composition** containing)

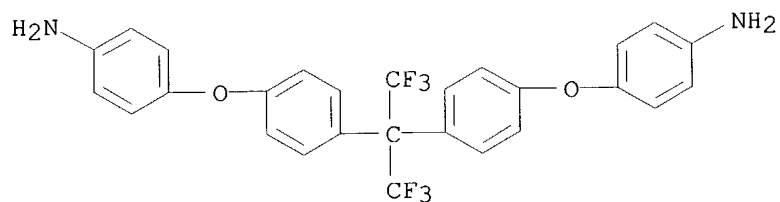
IT **155954-40-8P**, 3,3',4,4'-Benzophenonetetracarboxylic  
 dianhydride-2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane-1,3-bis(3-  
 aminopropyl)-1,1,3,3-tetramethyldisiloxane-4,4'-diaminodiphenyl  
 ether-pyromellitic anhydride copolymer **155954-41-9P**,  
 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[4-(4-  
 aminophenoxy)phenyl]propane-1,3-bis(3-aminopropyl)-1,1,3,3-  
 tetramethyldisiloxane-4,4'-diaminodiphenyl ether-2,2-(3,4-  
 dicarboxyphenyl)hexafluoropropane dianhydride copolymer  
 RL: PREP (Preparation)  
 (preparation of, alkali-developable photosensitive **composition** containing)

RN 155954-40-8 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
 5,5'-carbonylbis[1,3-isobenzofurandione], 4,4'-oxybis[benzenamine],  
 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] and  
 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-  
 phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

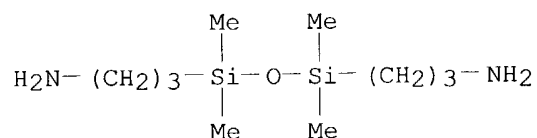
CM 1

CRN 69563-88-8  
CMF C27 H20 F6 N2 O2



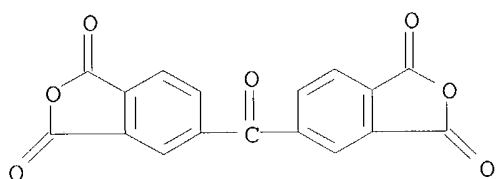
CM 2

CRN 2469-55-8  
CMF C10 H28 N2 O Si2



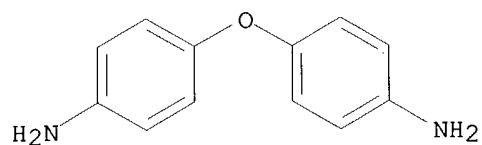
CM 3

CRN 2421-28-5  
CMF C17 H6 O7



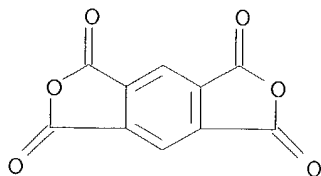
CM 4

CRN 101-80-4  
CMF C12 H12 N2 O



CM 5

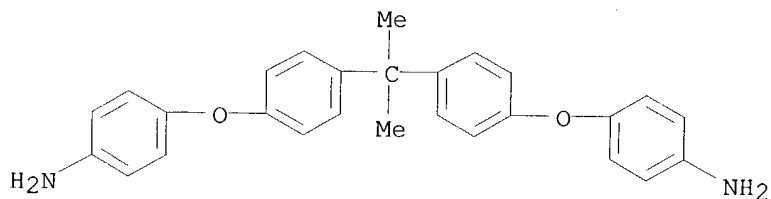
CRN 89-32-7  
CMF C10 H2 O6



RN 155954-41-9 HCAPLUS  
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
5,5'-carbonylbis[1,3-isobenzofurandione], 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine],  
3,3'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] and  
5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

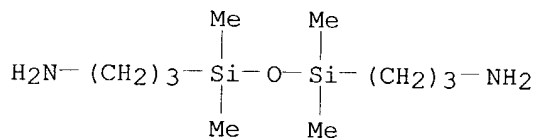
CM 1

CRN 13080-86-9  
CMF C27 H26 N2 O2



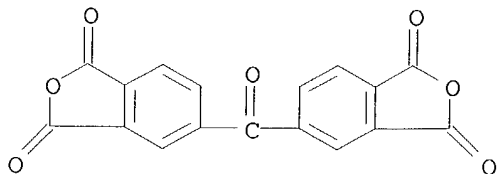
CM 2

CRN 2469-55-8  
CMF C10 H28 N2 O Si2



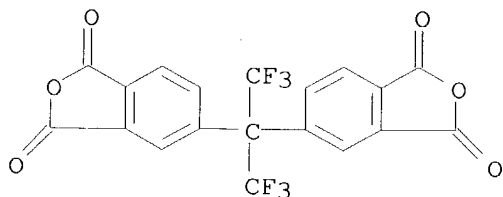
CM 3

CRN 2421-28-5  
CMF C17 H6 O7



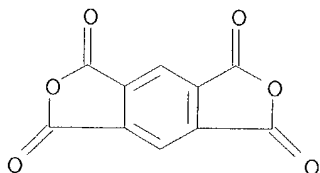
CM 4

CRN 1107-00-2  
CMF C19 H6 F6 O6



CM 5

CRN 89-32-7  
CMF C10 H2 O6



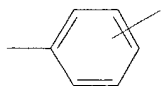
L77 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1994:422526 HCAPLUS  
DN 121:22526  
TI lithographic plate precursor of direct image type  
IN Kato, Eiichi; Ishii, Kazuo  
PA Fuji Photo Film Co., Ltd., Japan  
SO Eur. Pat. Appl., 127 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 530957	A1	19930310	EP 1992-306370	19920710
	EP 530957	B1	19991222		
	R: DE, GB				
	US 5368931	A	19941129	US 1992-910968	19920709
PRAI	JP 1991-169828		19910710		

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

JP 1991-220275 19910830  
 JP 1991-231880 19910911

GI



I

AB The title precursor comprises a base and an image-receptive layer containing resin grains obtained by subjecting to dispersion polymerization in an organic solvent a monofunctional monomer which is **soluble** in the solvent but is insol. after polymerization and contains  $\geq 1$  functional group capable of producing  $\geq 1$  polar group through decomposition and a monofunctional polymer comprising a polymer chain containing  $\geq 1$  recurring unit each containing a Si- and/or F-containing substituent and bonded to

one end a polymerizable double bond group represented by the formula  $\text{CHAl:CA2V-}$  ( $\text{V} = \text{O}, \text{CO}_2, \text{OCO}, \text{CH}_2\text{OCO}, \text{CH}_2\text{CO}_2, \text{SO}_2, \text{CONR}_1, \text{SO}_2\text{NR}_1, \text{CONCHCO}_2, \text{CONHCONH}$ , or  $\text{I}$ ;  $\text{R}_1 = \text{H}$  or  $\text{C}_1\text{-18 hydrocarbyl}$ ;  $\text{Al}, \text{A}_2 = \text{H}$ , halogen, cyano, hydrocarbyl, or  $\text{CO}_2\text{R}_2$ ;  $\text{R}_2 = \text{H}$  or hydrocarbyl).

IC ICM G03F007-033

ICS B41N001-14

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 145168-75-8P 145168-89-4P 145168-94-1P 145169-02-4P 145169-03-5P  
 145169-04-6P 145169-24-0P 145169-26-2P 145169-30-8P 145807-38-1P  
 145807-40-5P 145807-41-6P 145807-51-8P 145807-53-0P 145807-54-1P  
 145807-55-2P 145807-56-3P 145807-57-4P 145807-63-2P 145807-64-3P  
 145807-65-4P 145807-66-5P 145807-68-7P 145807-70-1P 145807-71-2P  
**145807-72-3P** 145807-78-9P 145807-80-3P 146188-26-3DP,  
 carboxy-terminated, ester with 2-hydroxyethyl methacrylate 147545-76-4P  
 149072-24-2DP, reaction products with 2-isocyanatoethyl methacrylate  
 149368-83-2P 149368-85-4P 149434-15-1P 149434-21-9P 149434-25-3P  
**149434-28-6P** 149434-33-3P 149658-55-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and copolymn. of, in preparing latexes for lithog. plate precursors)

IT 2358-84-1DP, Diethylene glycol dimethacrylate, polymers with methacrylate-terminated siloxanes and methacrylates 78830-72-5DP, polymers with methacrylate-terminated siloxanes and methacrylates  
**149212-88-4P 149234-31-1P** 150372-99-9P 150373-00-5P  
 150373-02-7P 150373-03-8P 150373-06-1P **150373-07-2P**  
**150373-08-3P** 150391-01-8P 150391-02-9P **150391-87-0P**  
**150419-15-1P 150528-35-1P** 150958-52-4P 150997-02-7P  
 155554-20-4P 155554-21-5P 155554-22-6P 155554-23-7P  
**155554-24-8P 155554-25-9P** 155554-26-0P 155554-27-1P  
 155554-28-2P **155554-29-3P** 155554-30-6P 155554-31-7P  
**155554-32-8P 155554-33-9P** 155554-34-0P 155554-35-1P  
 155554-36-2P 155554-37-3P **155554-38-4P** 155554-40-8P  
**155554-41-9P 155554-42-0P** 155554-43-1P 155554-44-2P  
 155554-45-3P 155554-46-4P 155554-47-5P 155554-48-6P 155554-49-7P  
 155554-50-0P 155554-51-1P 155554-52-2P 155554-53-3P 155554-54-4P  
 155554-55-5P 155554-56-6P 155554-57-7P **155554-58-8P**  
 155554-59-9P 155554-60-2P 155554-61-3P **155554-62-4P**  
 155554-64-6P **155554-65-7P 155554-67-9P**  
**155554-68-0P** 155554-69-1P 155554-70-4P 155554-71-5P



155554-72-6P 155554-74-8P 155554-75-9P 155554-76-0P  
 155554-77-1P 155554-78-2P 155554-79-3P 155554-80-6P 155554-81-7P  
 155554-82-8P 155554-83-9P 155554-84-0P 155554-85-1P  
 155554-86-2P 155554-87-3P 155554-88-4P 155554-89-5P  
 155554-90-8P 155554-91-9P 155554-92-0P 155554-93-1P  
 155554-94-2P 155554-95-3P 155554-96-4P 155554-97-5P  
 155554-98-6P 155554-99-7P 155569-64-5P 155609-29-3P  
 155616-65-2P 155643-92-8P 155643-93-9P

RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation and use of, in **image**-receptive layers for lithog. plate precursors)

IT 145807-72-3P 149434-28-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and copolymn. of, in preparing latexes for lithog. plate precursors)

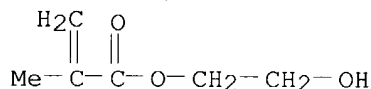
RN 145807-72-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[diethyl(3,3,3-trifluoropropyl)silyl]oxy]propyl ester, telomer with 3-mercaptopropanoic acid, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 868-77-9

CMF C6 H10 O3



CM 2

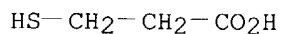
CRN 163418-43-7

CMF (C14 H25 F3 O3 Si)x . C3 H6 O2 S

CM 3

CRN 107-96-0

CMF C3 H6 O2 S



CM 4

CRN 163418-42-6

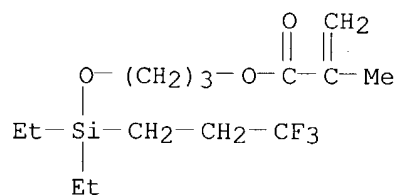
CMF (C14 H25 F3 O3 Si)x

CCI PMS

CM 5

CRN 146999-00-0

CMF C14 H25 F3 O3 Si

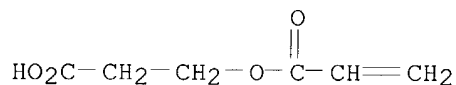


RN 149434-28-6 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, telomer with 2-mercaptoethanol and  
 phenylbis(trifluoromethyl)silyl 2-methyl-2-propenoate,  
 3-[(1-oxo-2-propenyl)oxy]propanoate (9CI) (CA INDEX NAME)

CM 1

CRN 24615-84-7

CMF C6 H8 O4



CM 2

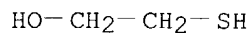
CRN 163255-66-1

CMF (C12 H10 F6 O2 Si . C4 H6 O2)x . C2 H6 O S

CM 3

CRN 60-24-2

CMF C2 H6 O S



CM 4

CRN 163255-65-0

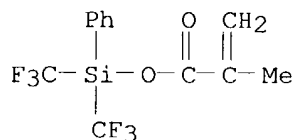
CMF (C12 H10 F6 O2 Si . C4 H6 O2)x

CCI PMS

CM 5

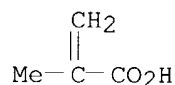
CRN 149072-54-8

CMF C12 H10 F6 O2 Si



CM 6

CRN 79-41-4  
CMF C4 H6 O2



IT 149212-88-4P 149234-31-1P 150373-07-2P  
150373-08-3P 150391-87-0P 150419-15-1P  
150528-35-1P 155554-24-8P 155554-25-9P  
155554-29-3P 155554-32-8P 155554-33-9P  
155554-38-4P 155554-41-9P 155554-42-0P  
155554-58-8P 155554-62-4P 155554-65-7P  
155554-67-9P 155554-68-0P 155554-72-6P  
155554-86-2P 155554-94-2P 155609-29-3P

RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

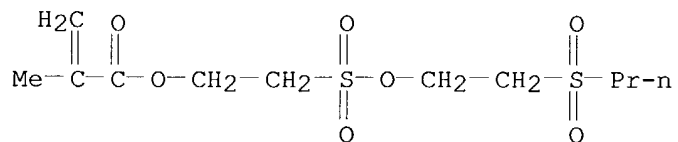
(preparation and use of, in **image**-receptive layers for lithog. plate precursors)

RN 149212-88-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[[diethyl(phenylmethyl)silyl]oxy]ethyl ester, polymer with 1,2-ethanediyl di-2-propenoate and 2-[[2-(propylsulfonyl)ethoxy]sulfonyl]ethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

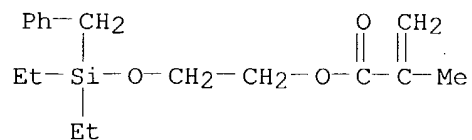
CM 1

CRN 149212-82-8  
CMF C11 H20 O7 S2



CM 2

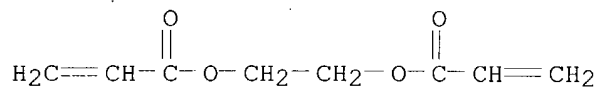
CRN 146717-65-9  
CMF C17 H26 O3 Si



CM 3

CRN 2274-11-5

CMF C8 H10 O4



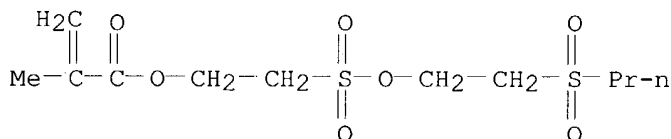
RN 149234-31-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1,2-ethanediyl di-2-propenoate, phenylbis(trifluoromethyl)silyl 2-methyl-2-propenoate and 2-[[2-(propylsulfonyl)ethoxy]sulfonyl]ethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 149212-82-8

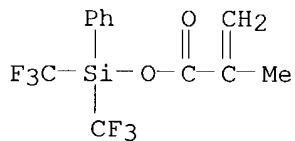
CMF C11 H20 O7 S2



CM 2

CRN 149072-54-8

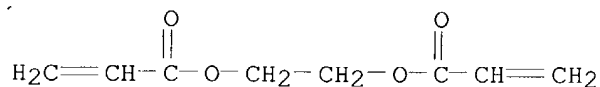
CMF C12 H10 F6 O2 Si



CM 3

CRN 2274-11-5

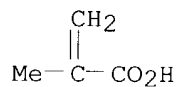
CMF C8 H10 O4



CM 4

CRN 79-41-4

CMF C4 H6 O2



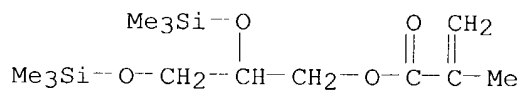
RN 150373-07-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
2,3-bis[(trimethylsilyl)oxy]propyl 2-methyl-2-propenoate and  
3-[(pentamethyldisiloxanyl)oxy]propyl 2-methyl-2-propenoate, graft (9CI)  
(CA INDEX NAME)

CM 1

CRN 143987-99-9

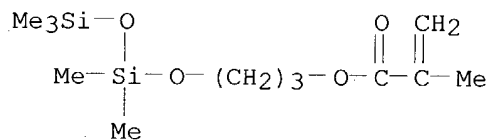
CMF C13 H28 O4 Si2



CM 2

CRN 135091-71-3

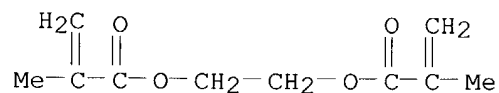
CMF C12 H26 O4 Si2



CM 3

CRN 97-90-5

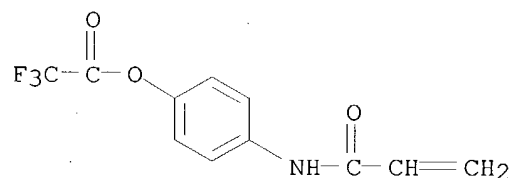
CMF C10 H14 O4



RN 150373-08-3 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
 4-[(1-oxo-2-propenyl)amino]phenyl trifluoroacetate and  
 (pentamethyldisiloxanyl)methyl 2-propenoate, graft (9CI) (CA INDEX NAME)

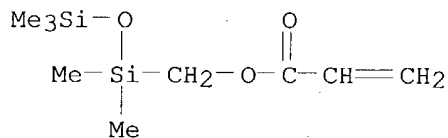
CM 1

CRN 149858-18-4  
 CMF C11 H8 F3 N O3



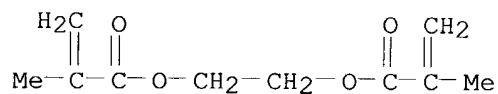
CM 2

CRN 17865-53-1  
 CMF C9 H20 O3 Si2



CM 3

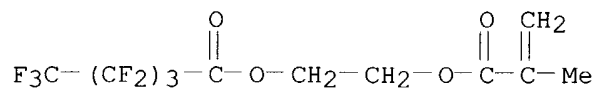
CRN 97-90-5  
 CMF C10 H14 O4



RN 150391-87-0 HCAPLUS  
 CN Pentanoic acid, nonafluoro-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl  
 ester, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate) and  
 [(ethenylphenyl)methoxy]ethyldimethylsilane, graft (9CI) (CA INDEX NAME)

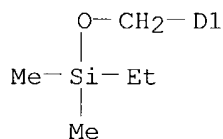
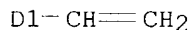
CM 1

CRN 150373-05-0  
CMF C11 H9 F9 O4



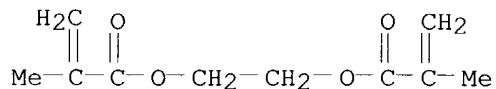
CM 2

CRN 126688-52-6  
CMF C13 H20 O Si  
CCI IDS



CM 3

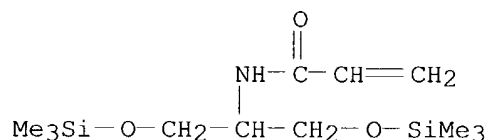
CRN 97-90-5  
CMF C10 H14 O4



RN 150419-15-1 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3,3,4,5,5,5-hexafluoropentyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate, 2-propenamide and N-[2-[(trimethylsilyl)oxy]-1-[[trimethylsilyl)oxy]methyl]ethyl]-2-propenamide, graft (9CI) (CA INDEX NAME)

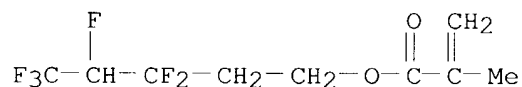
CM 1

CRN 150373-09-4  
CMF C12 H27 N O3 Si2



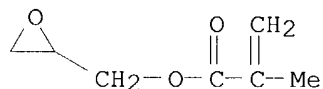
CM 2

CRN 149072-30-0  
CMF C9 H10 F6 O2



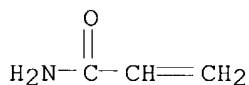
CM 3

CRN 106-91-2  
CMF C7 H10 O3



CM 4

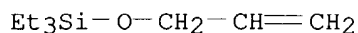
CRN 79-06-1  
CMF C3 H5 N O



RN 150528-35-1 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 3,3,4,4,5,5,5-heptafluoropentyl 2-methyl-2-propenoate polymer with octyl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate 2-methyl-2-propenoate, and triethyl(2-propenyloxy)silane, graft (9CI) (CA INDEX NAME)

CM 1

CRN 2290-45-1  
CMF C9 H20 O Si



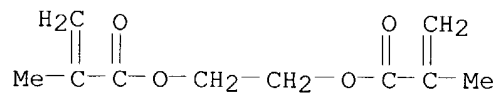
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



CM 2

CRN 97-90-5

CMF C10 H14 O4



CM 3

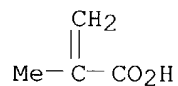
CRN 149434-25-3

CMF (C12 H22 O2 . C9 H9 F7 O2 . C7 H10 O3)x . x C4 H6 O2

CM 4

CRN 79-41-4

CMF C4 H6 O2



CM 5

CRN 163148-56-9

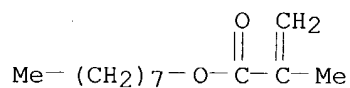
CMF (C12 H22 O2 . C9 H9 F7 O2 . C7 H10 O3)x

CCI PMS

CM 6

CRN 2157-01-9

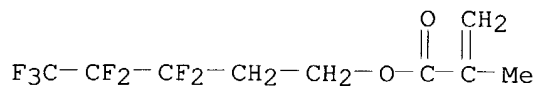
CMF C12 H22 O2



CM 7

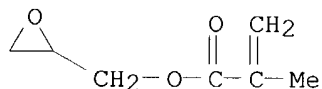
CRN 2145-81-5

CMF C9 H9 F7 O2



CM 8

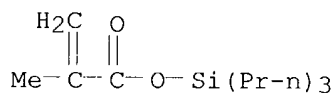
CRN 106-91-2  
CMF C7 H10 O3



RN 155554-24-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with methyl 2-methyl-2-propenoate, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl 2-methyl-2-propenoate and tripropylsilyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

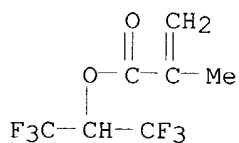
CM 1

CRN 6999-45-7  
CMF C13 H26 O2 Si



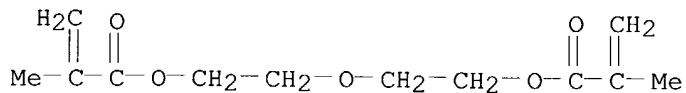
CM 2

CRN 3063-94-3  
CMF C7 H6 F6 O2



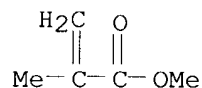
CM 3

CRN 2358-84-1  
CMF C12 H18 O5



CM 4

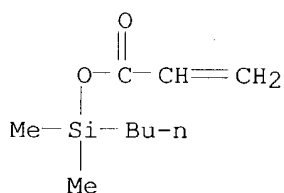
CRN 80-62-6  
CMF C5 H8 O2



RN 155554-25-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with butyldimethylsilyl 2-propenoate, methyl 2-methyl-2-propenoate and 2,2,2-trifluoro-1-(trifluoromethyl)ethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

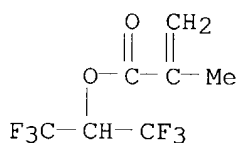
CM 1

CRN 126482-08-4  
CMF C9 H18 O2 Si



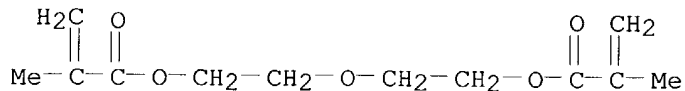
CM 2

CRN 3063-94-3  
CMF C7 H6 F6 O2



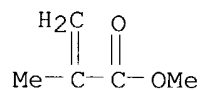
CM 3

CRN 2358-84-1  
CMF C12 H18 O5



CM 4

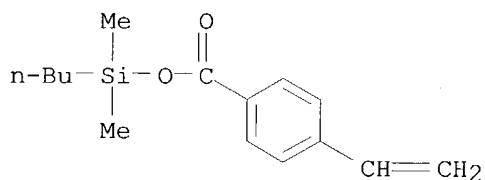
CRN 80-62-6  
CMF C5 H8 O2



RN 155554-29-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with butyldimethylsilyl 4-ethenylbenzoate, methyl 2-methyl-2-propenoate and 2,2,2-trifluoro-1-(trifluoromethyl)ethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

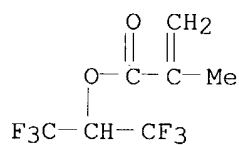
CM 1

CRN 126482-12-0  
CMF C15 H22 O2 Si



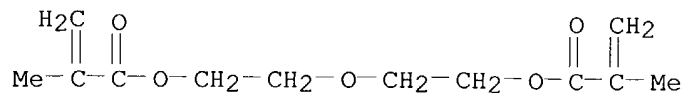
CM 2

CRN 3063-94-3  
CMF C7 H6 F6 O2



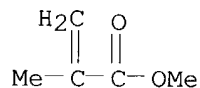
CM 3

CRN 2358-84-1  
CMF C12 H18 O5



CM 4

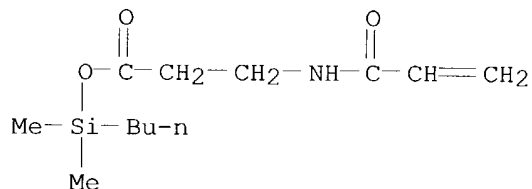
CRN 80-62-6  
CMF C5 H8 O2



RN 155554-32-8 HCAPLUS  
CN  $\beta$ -Alanine, N-(1-oxo-2-propenyl)-, butyldimethylsilyl ester, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate) and 3,3,3-trifluoropropyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

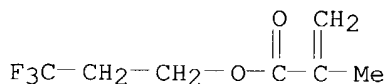
CM 1

CRN 149671-91-0  
CMF C12 H23 N O3 Si



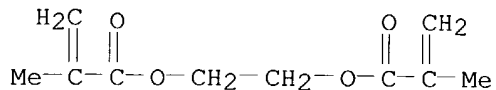
CM 2

CRN 146188-32-1  
CMF C7 H9 F3 O2



CM 3

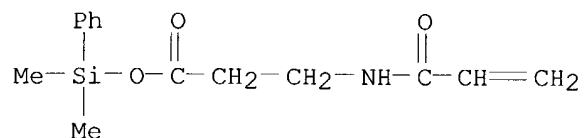
CRN 97-90-5  
CMF C10 H14 O4



RN 155554-33-9 HCAPLUS  
CN  $\beta$ -Alanine, N-(1-oxo-2-propenyl)-, dimethylphenylsilyl ester, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate) and 2,2,2-trifluoroethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

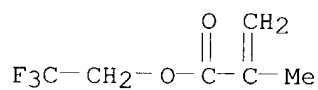
CM 1

CRN 149671-93-2  
CMF C14 H19 N O3 Si



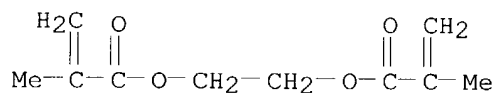
CM 2

CRN 352-87-4  
CMF C6 H7 F3 O2



CM 3

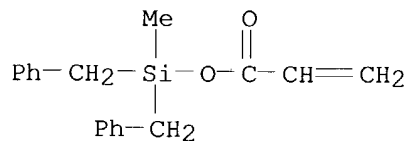
CRN 97-90-5  
CMF C10 H14 O4



RN 155554-38-4 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
3,3,4,5,5,5-hexafluoropentyl 2-methyl-2-propenoate,  
methylbis(phenylmethyl)silyl 2-propenoate and oxiranylmethyl  
2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

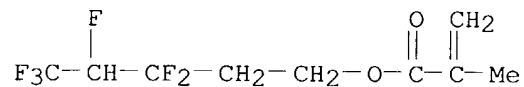
CRN 149643-08-3  
CMF C18 H20 O2 Si



CM 2

CRN 149072-30-0

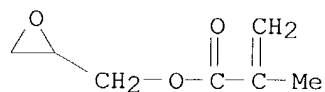
CMF C9 H10 F6 O2



CM 3

CRN 106-91-2

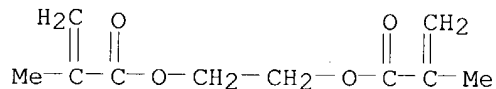
CMF C7 H10 O3



CM 4

CRN 97-90-5

CMF C10 H14 O4



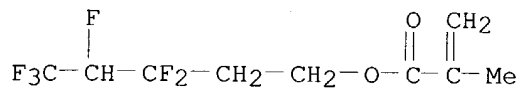
RN 155554-41-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 3,3,4,5,5,5-hexafluoropentyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and tripropylsilyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 149072-30-0

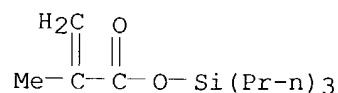
CMF C9 H10 F6 O2



CM 2

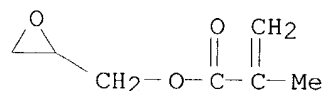
CRN 6999-45-7

CMF C13 H26 O2 Si



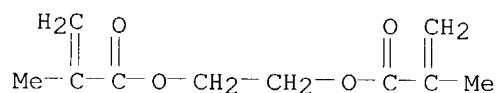
CM 3

CRN 106-91-2  
CMF C7 H10 O3



CM 4

CRN 97-90-5  
CMF C10 H14 O4

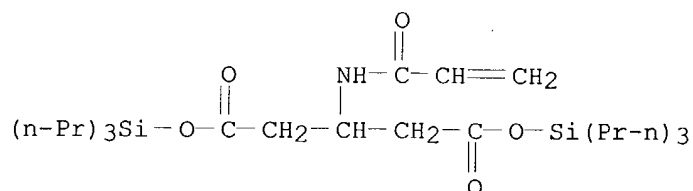


RN 155554-42-0 HCAPLUS

CN 5-Isobenzofurancarboxylic acid, 1,3-dihydro-1,3-dioxo-,  
2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with  
bis(tripropylsilyl) 3-[(1-oxo-2-propenyl)amino]pentanedioate,  
1,2-ethanediyl bis(2-methyl-2-propenoate) and 3,3,4,4-tetrafluorobutyl  
2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

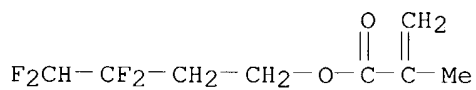
CRN 149643-12-9  
CMF C26 H51 N O5 Si2



CM 2

CRN 138506-00-0  
CMF C8 H10 F4 O2

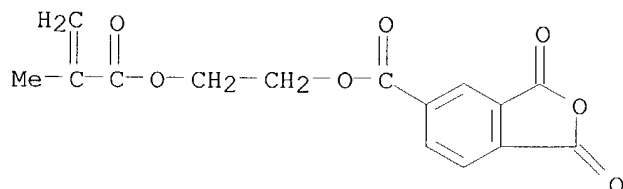




CM 3

CRN 70293-55-9

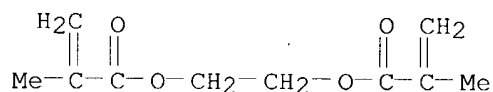
CMF C15 H12 O7



CM 4

CRN 97-90-5

CMF C10 H14 O4



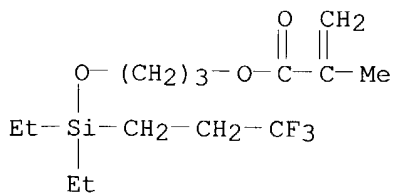
RN 155554-58-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with 3-[[diethyl(3,3,3-trifluoropropyl)silyl]oxy]propyl 2-methyl-2-propenoate and [2-(4-methoxyphenyl)-1,3-dioxolan-4-yl]methyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 146999-00-0

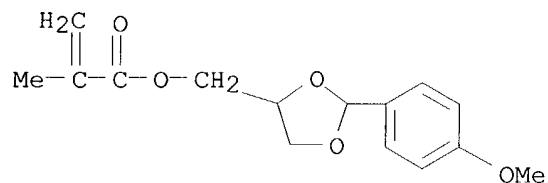
CMF C14 H25 F3 O3 Si



CM 2

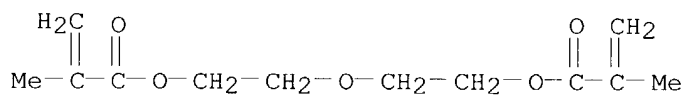
CRN 78830-72-5

CMF C15 H18 O5



CM 3

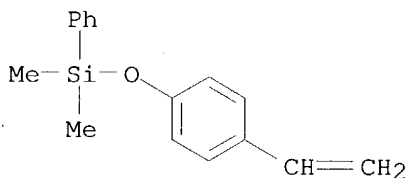
CRN 2358-84-1  
CMF C12 H18 O5



RN 155554-62-4 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
2-[[[(2,6-dimethoxyphenyl)methoxy]carbonyl]amino]ethyl 2-propenoate and  
(4-ethenylphenoxy)dimethylphenylsilane, graft (9CI) (CA INDEX NAME)

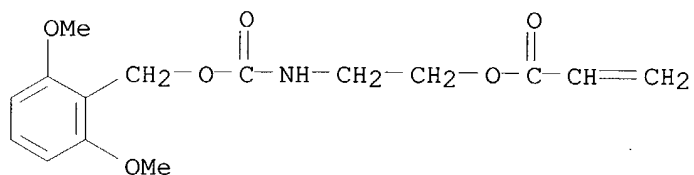
CM 1

CRN 146057-68-3  
CMF C16 H18 O Si



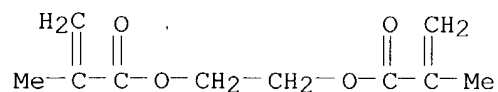
CM 2

CRN 126450-00-8  
CMF C15 H19 N O6



CM 3

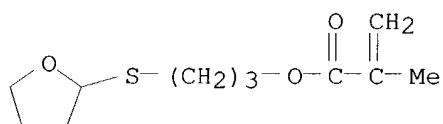
CRN 97-90-5  
CMF C10 H14 O4



RN 155554-65-7 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
3-[[diethyl(3,3,3-trifluoropropyl)silyl]oxy]propyl 2-methyl-2-propenoate  
and 3-[(tetrahydro-2-furanyl)thio]propyl 2-methyl-2-propenoate, graft  
(9CI) (CA INDEX NAME)

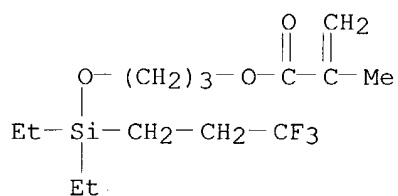
CM 1

CRN 149235-50-7  
CMF C11 H18 O3 S



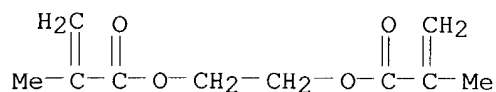
CM 2

CRN 146999-00-0  
CMF C14 H25 F3 O3 Si



CM 3

CRN 97-90-5  
CMF C10 H14 O4



RN 155554-67-9 HCAPLUS

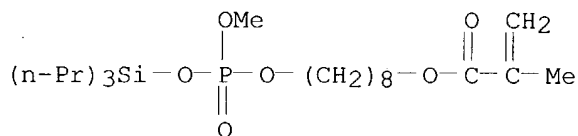
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CN 2-Butenoic acid, 2,2,2-trifluoro-1-[[4,4,4-trifluoro-3-(trifluoromethyl)butoxy]carbonyl]ethyl ester, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate) and 10-methoxy-10-oxido-12,12-dipropyl-9,11-dioxa-10-phospha-12-silapentadec-1-yl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 155554-66-8

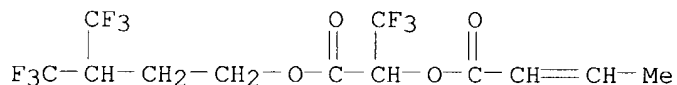
CMF C22 H45 O6 P Si



CM 2

CRN 146116-81-6

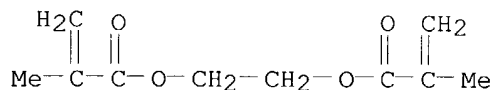
CMF C12 H11 F9 O4



CM 3

CRN 97-90-5

CMF C10 H14 O4



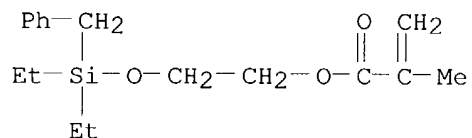
RN 155554-68-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 2-[[diethyl(phenylmethyl)silyl]oxy]ethyl 2-methyl-2-propenoate and 2-[[[4-ethenylphenyl)sulfonyl]oxy]-1H-isoindole-1,3(2H)-dione, graft (9CI) (CA INDEX NAME)

CM 1

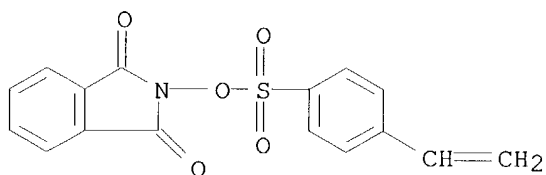
CRN 146717-65-9

CMF C17 H26 O3 Si



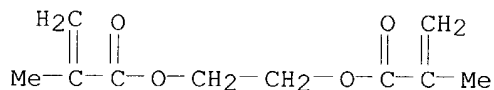
CM 2

CRN 137961-76-3  
CMF C16 H11 N O5 S



CM 3

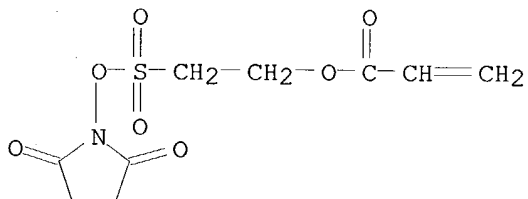
CRN 97-90-5  
CMF C10 H14 O4



RN 155554-72-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with dibutyl(phenylmethyl)silyl 2-methyl-2-propenoate and 2-[[ (2,5-dioxo-1-pyrrolidinyl)oxy]sulfonyl]ethyl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

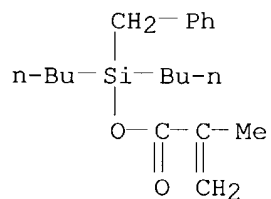
CRN 149212-72-6  
CMF C9 H11 N O7 S



CM 2

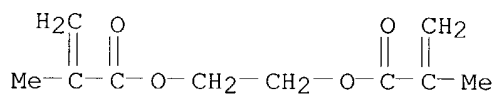
CRN 146615-75-0

CMF C19 H30 O2 Si



CM 3

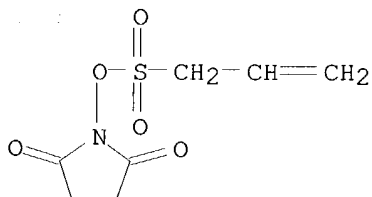
CRN 97-90-5  
CMF C10 H14 O4



RN 155554-86-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with  
3-[[diethyl(3,3,3-trifluoropropyl)silyl]oxy]propyl 2-methyl-2-propenoate  
and 1-[(2-propenylsulfonyl)oxy]-2,5-pyrrolidinedione, graft (9CI) (CA  
INDEX NAME)

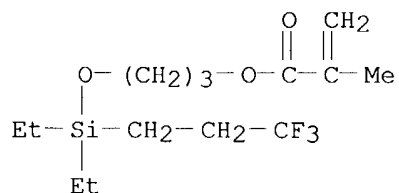
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CRN 149235-59-6  
CMF C7 H9 N O5 S



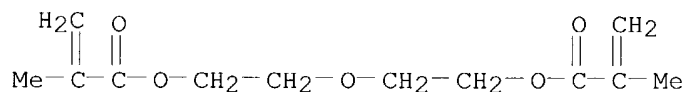
CM 2

CRN 146999-00-0  
CMF C14 H25 F3 O3 Si



CM 3

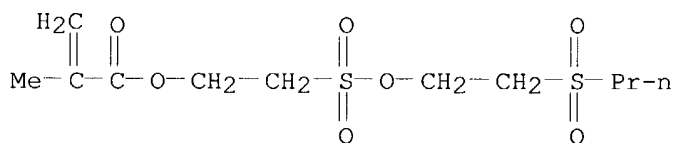
CRN 2358-84-1  
CMF C12 H18 O5



RN 155554-94-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3-[[diethyl(3,3,3-trifluoropropyl)silyl]oxy]propyl ester, polymer with 1,2-ethanediyl di-2-propenoate and 2-[[2-(propylsulfonyl)ethoxy]sulfonyl]ethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

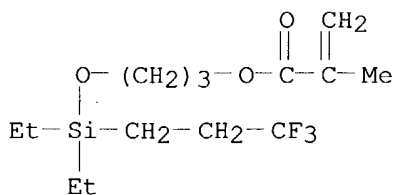
CM 1

CRN 149212-82-8  
CMF C11 H20 O7 S2



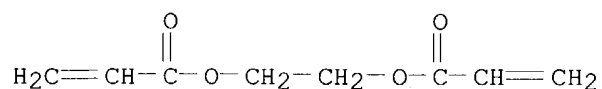
CM 2

CRN 146999-00-0  
CMF C14 H25 F3 O3 Si



CM 3

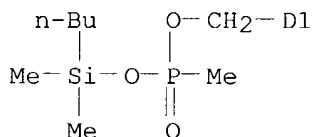
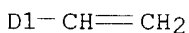
CRN 2274-11-5  
CMF C8 H10 O4



RN 155609-29-3 HCAPLUS  
CN 2-Propenoic acid, 2-[[ (nonafluorobutyl)sulfonylamino]ethyl ester, polymer with butyldimethylsilyl (ethenylphenyl)methyl methylphosphonate, graft (9CI) (CA INDEX NAME)

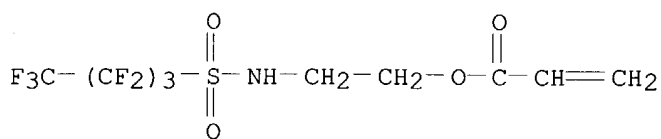
CM 1

CRN 149235-81-4  
CMF C16 H27 O3 P Si  
CCI IDS



CM 2

CRN 146615-77-2  
CMF C9 H8 F9 N O4 S



L77 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1990:562338 HCAPLUS  
DN 113:162338  
TI A study of novel heat-resistant polymers: preparation of photosensitive fluorinated polybenzoxazole precursors and physical

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



properties of polybenzoxazoles derived from the precursors

AU Yamaoka, Tsuguo; Nakajima, Nobuko; Koseki, Ken'ichi; Maruyama, Yutaka

CS Fac. Eng., Chiba Univ., Chiba, 260, Japan

SO Journal of Polymer Science, Part A: Polymer Chemistry (1990), 28(9), 2517-32

CODEN: JPACEC; ISSN: 0887-624X

DT Journal

LA English

AB A series of novel photosensitive polybenzoxazole precursors were prepared from polycondensation of 2,2-bis(3,3'-amino-4,4'-hydroxyphenyl)hexafluoropropane with **photosensitive** dicarboxylic **acid** chlorides such as p-phenylenediacryloyl chloride and benzophenone-4,4'-dicarboxylic chloride. The precursors are **sol** in common organic solvents owing to the presence of perfluoromethyl groups in the chain structure and insolubilized in the solvents upon irradiation with the light. Polybenzoxazole patterns with high resolution as well as high aspect ratio were reproduced by baking the precursor patterns at 300°. The pattern shrinkage on the conversion to polybenzoxazole was slight. The polybenzoxazole films offered good heat-resistance up to 400° in addition to good elec. properties.

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 76

ST **photoresist** fluorinated polybenzoxazole deriv

IT Photoimaging **compositions** and processes  
(fluorinated polybenzoxazole precursors for)

IT **Resists**  
(**photo-**, polymeric, fluorinated polybenzoxazole precursors for)

IT Crosslinking  
Dimerization  
(**photochem.**, of heat-**resistant** polymers as polybenzoxazole precursors)

IT 920-46-7D, Methacryloyl chloride, reaction products with fluorinated polybenzoxazole precursor polymer 129701-94-6D, reaction products with methacryloyl chloride 129726-49-4 **129726-52-9** 129726-53-0

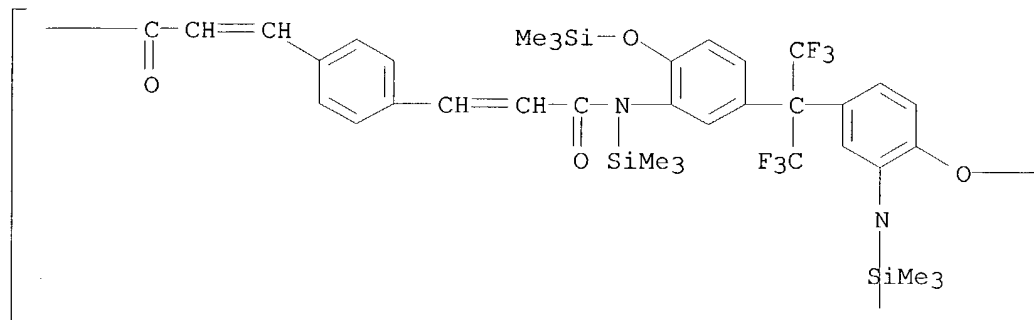
RL: USES (Uses)  
(heat-resistant fluorinated polybenzoxazole precursor, as potential **photoimaging** and **photoresist** materials)

IT **129726-52-9**  
RL: USES (Uses)  
(heat-resistant fluorinated polybenzoxazole precursor, as potential **photoimaging** and **photoresist** materials)

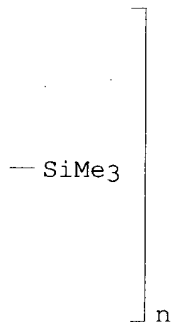
RN 129726-52-9 HCAPLUS

CN Poly[[ (trimethylsilyl)imino] [6-[(trimethylsilyl)oxy]-1,3-phenylene] [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] [4-[(trimethylsilyl)oxy]-1,3-phenylene] [(trimethylsilyl)imino] (1-oxo-2-propene-1,3-diyl)-1,4-phenylene(3-oxo-1-propene-1,3-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



=> => d que

L3 STR

Si--O  
1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L7 SCR 2043  
L10 STR

C—G1      F—Cb—G2      Ak—G3      F—Ak—N      O=C—O  
 1 2      5 @3 4      @6 7      8 @9 10      11 @12 13

F—Ak—OH      C=O      C—O—C—O—C  
 14 @15 16      @17 18      19 20 @21 22 23

VAR G1=3/6  
 VAR G2=OH/N/9/12/15/17/21  
 VAR G3=OH/N/12/17/21  
 NODE ATTRIBUTES:  
 CONNECT IS E1 RC AT 11  
 CONNECT IS E1 RC AT 18  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE  
 L12 32323 SEA FILE=REGISTRY SSS FUL L3 AND L10 AND L7  
 L15 STR

F—Cb—G2      Ak—G3      F—Ak—N      O=C—O      F—Ak—OH  
 5 @3 4      @6 7      8 @9 10      11 @12 13      14 @15 16

C~G1      O~Si~G4      O~C~G1      N~C~G1      S~C~G1  
 @17 18      21 20 19      @24 25 26      @27 28 29      @30 31 32

Ak~C~G1      F~Cb~C~G1  
 @33 34 35      39 @36 37 38

VAR G1=3/6  
 VAR G2=OH/15/12/N/9  
 VAR G3=OH/12/N  
 VAR G4=17/24/27/30/33/36  
 NODE ATTRIBUTES:  
 CONNECT IS E1 RC AT 11  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 35

STEREO ATTRIBUTES: NONE  
 L18 9618 SEA FILE=REGISTRY SUB=L12 SSS FUL L15  
 L22 STR

Nalke 10/693199

~~ELHITO 10/204749~~ 6/10/04 Page 201

F—Cb—G2      Ak—G2      C—G1      O—Si—G4      O—C—G1  
5 @3 4      @6 7      @17 18      21 20 19      @24 25 26

N—C—G1      S—C—G1      Ak—C—G1      F—Cb—C—G1  
@27 28 29      @30 31 32      @33 34 35      39 @36 37 38

O—C—C      C—O—C—O—C  
40 @41 42      43 44 @45 46 47

VAR G1=3/6  
VAR G2=41/45  
VAR G4=17/24/27/30/33/36  
NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 40  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 34

*Text search*

STEREO ATTRIBUTES: NONE

L24      55 SEA FILE=REGISTRY SUB=L12 SSS FUL L22  
L25      9 SEA FILE=REGISTRY ABB=ON L18 AND L24  
L26      6183 SEA FILE=HCAPLUS ABB=ON L18  
L27      30 SEA FILE=HCAPLUS ABB=ON L24  
L28      8 SEA FILE=HCAPLUS ABB=ON L26 AND L27  
L29      5 SEA FILE=HCAPLUS ABB=ON L28 AND ?RESIST?  
L30      1 SEA FILE=HCAPLUS ABB=ON L28 AND PHOTOG?/SC,SX  
L31      1 SEA FILE=HCAPLUS ABB=ON L29 AND L30  
L32      0 SEA FILE=HCAPLUS ABB=ON L28 AND IMAG?  
L33      0 SEA FILE=HCAPLUS ABB=ON L28 AND PHOTORESIST?  
L34      4 SEA FILE=HCAPLUS ABB=ON L25  
L35      1 SEA FILE=HCAPLUS ABB=ON L34 AND PHOTOG?/SC,SX  
L36      0 SEA FILE=HCAPLUS ABB=ON L34 AND IMAG?  
L37      16282 SEA FILE=HCAPLUS ABB=ON L12  
L38      1037 SEA FILE=HCAPLUS ABB=ON L37 AND IMAG?  
L39      236 SEA FILE=HCAPLUS ABB=ON L38 AND COMPOSITION?  
L41      2 SEA FILE=HCAPLUS ABB=ON L39 AND SOLUB?(5A) (INHIB? OR PROMOT?)  
  
L42      12 SEA FILE=HCAPLUS ABB=ON L37 AND SOLUB?(5A) (INHIB? OR PROMOT?)  
  
L43      3 SEA FILE=HCAPLUS ABB=ON L42 AND PHOTOG?/SC,SX  
L44      4153 SEA FILE=REGISTRY ABB=ON L12 AND 1-40/F  
L45      1610 SEA FILE=HCAPLUS ABB=ON L44  
L47      413 SEA FILE=HCAPLUS ABB=ON L45 AND (IMAG? OR PHOTOG?/SC,SX OR  
PHOTORESIST? OR PHOTO?(3A)?RESIST?)  
L49      190 SEA FILE=HCAPLUS ABB=ON L47 AND COMPOSITION?  
L51      2 SEA FILE=HCAPLUS ABB=ON L49 AND SOLUB?(5A) (PROMOT? OR  
INHIBIT?)  
L52      31 SEA FILE=HCAPLUS ABB=ON L45(L) IMAG?  
L53      6 SEA FILE=HCAPLUS ABB=ON L52 AND SOLUB?  
L54      4 SEA FILE=HCAPLUS ABB=ON (L30 OR L31 OR L32 OR L33) OR L35 OR  
L36 OR L41 OR L43

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L55 182 SEA FILE=HCAPLUS ABB=ON L37(L) IMAG?  
 L56 31 SEA FILE=HCAPLUS ABB=ON L45 AND L55  
 L59 6 SEA FILE=HCAPLUS ABB=ON L56 AND SOLUB?  
 L61 10 SEA FILE=HCAPLUS ABB=ON L54 OR L51 OR L53 OR L59  
 L62 53399 SEA FILE=HCAPLUS ABB=ON ?RESIST?(5A)COMPOSITION?  
 L63 520 SEA FILE=HCAPLUS ABB=ON L62 AND ?SILSESQUI?  
 L64 25 SEA FILE=HCAPLUS ABB=ON L63 AND IMAG?  
 L65 9 SEA FILE=HCAPLUS ABB=ON L64 AND SOLUB?  
 L66 78 SEA FILE=HCAPLUS ABB=ON L63 AND SOLUB?  
 L67 44 SEA FILE=HCAPLUS ABB=ON L66 AND PHOTOG?/SC  
 L68 3 SEA FILE=HCAPLUS ABB=ON L67 AND ?FLUORIN?  
 L69 9 SEA FILE=HCAPLUS ABB=ON L67 AND ?FLUORO?  
 L70 30 SEA FILE=HCAPLUS ABB=ON L62 AND ?SILSESQUI?(5A) (F OR ?FLUORIN?  
 OR ?FLUORO?)  
 L71 5 SEA FILE=HCAPLUS ABB=ON L70 AND SOLUB?  
 L72 17 SEA FILE=HCAPLUS ABB=ON L65 OR L68 OR L69 OR L71  
 L73 16 SEA FILE=HCAPLUS ABB=ON L63 AND ACID(3A)?SENSIT?  
 L74 30 SEA FILE=HCAPLUS ABB=ON L72 OR L73  
 L75 39 SEA FILE=HCAPLUS ABB=ON L49 AND ACID(3A)?SENSIT?  
 L76 14 SEA FILE=HCAPLUS ABB=ON L75 AND SOLUB?  
 L77 24 SEA FILE=HCAPLUS ABB=ON L61 OR L76  
 L78 51 SEA FILE=HCAPLUS ABB=ON L74 OR L77  
 L79 27 SEA FILE=HCAPLUS ABB=ON L78 NOT L77

=> d 179 bib abs ind 1-27

L79 ANSWER 1 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:950992 HCAPLUS  
 DN 140:21275  
 TI Acetal protected polymers for **photoresists compositions**  
 IN Malik, Sanjay; Dilocker, Stephanie J.; De Binod, B.  
 PA Arch Specialty Chemicals, Inc., USA  
 SO PCT Int. Appl., 35 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003099782	A2	20031204	WO 2003-US16765	20030528
	WO 2003099782	A3	20040226		
	W: JP, KR, SG				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				
	IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	US 2004034160	A1	20040219	US 2003-446540	20030528
PRAI	US 2002-383535P	P	20020528		
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A polymer comprises an acetal-containing monomer unit having the general structure I and at least one of the fluorine-containing monomer units having the general structures II and III (R1, R4, R5, R6 = H, lower alkyl, CH2CO2R10, cyano, CH2CN, or halogen, wherein R10 = alkyl, cycloalkyl, aryl, arylalkyl, alkylencycloalkyl, silyl or siloxy or linear or cyclic

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polysiloxane group; R2 = CHR11R12 where R11 and R12 = H, lower alkyl, cycloalkyl, aryl; A = alkylene, cycloalkylene, alkylencycloalkylene, alkylenearylene; R3 is linear, branched or cyclic fluoroalkyl group or SiR13R14R15 where R13, R14, and R15 = alkyl, cycloalkyl, aryl, arylalkyl, alkylencycloalkyl, silyl, siloxy, linear or cyclic polysiloxane or **silsesquioxane** alkyl; B = aryl, C(=O)-O-(CH2)X where x = 0-4, lower alkyl, cycloalkyl, alkene cycloalkyl, silyl, siloxyl, or linear or cyclic polysiloxane group; R7 = H, **acid sensitive** group; R8 and R9 = H, -CN group; and y = 0-4). The invention also provides the use of the acetal protected polymers in radiation sensitive compns. for exposure to actinic radiation, especially radiation of 157 nm.

IC ICM C07D

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST acetal protected polymer UV **photoresist compn**

IT Photolithography

Photoresists

(UV; acetal protected polymers for photoresists compns.)

IT 478705-53-2P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(acetal protected polymers for photoresists compns.)

IT 76-37-9DP, 2,2,3,3-Tetrafluoro-1-propanol, reaction products with hydroxystyrene and t-Bu vinyl ether 647-42-7DP, 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluoro-1-octanol, reaction products with hydroxystyrene and t-Bu vinyl ether 926-02-3DP, tert-Butyl vinyl ether, reaction products with hydroxystyrene, fluoroalcs., heptamethylcyclotetrasiloxanepropanol and dicarbonate 24424-99-5DP, Di-tert-butyl dicarbonate, reaction products with hydroxystyrene derivs. 73963-23-2DP, reaction products with hydroxystyrene and t-Bu vinyl ether 478705-53-2DP, reaction products with t-Bu vinyl ether, fluoroalcs., heptamethylcyclotetrasiloxanepropanol and dicarbonate  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acetal protected polymers for photoresists compns.)

L79 ANSWER 2 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:174790 HCAPLUS

DN 138:360310

TI Spin-on-glass (SOG) for the trilayer **imaging** process

AU Sugita, Hikaru; Saito, Akio; Konno, Keiji; Hayasui, Akihiro; Nishiyama, Satoru; Ebisawa, Masahiko; Nishikawa, Michinori; Ohta, Yoshihisa; Tominaga, Tetsuo

CS Fine Electronic Research Laboratory, JSR Corporation, Mie, 510-8552, Japan

SO Journal of Applied Polymer Science (2003), 88(3), 636-640

CODEN: JAPNAB; ISSN: 0021-8995

PB John Wiley & Sons, Inc.

DT Journal

LA English

AB Maleic acid catalyzed hydrolysis and condensation of tetramethoxysilane was carried out in 1-propoxy-2-propanol to prepare a spin-on-glass (SOG) material for the trilayer **imaging** process. The material was found to be stable enough for industry use. Minor amts. of **methylsilsesquioxane** and photoacid generators were introduced into the material. Thin resist (top layer) patterns were **imaged** on the SOG film (intermediate layer), which was coated on a hard-baked i-line resist (bottom layer). The SOG film showed sufficient adhesion to the

resist patterns, and superior resist profiles were **imaged** on the film.

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST spin glass polysiloxane SOG trilayer photolithog **imaging** process

IT **Silsesquioxanes**  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Me; spin-on-glass precursor composition for trilayer photolithog. process containing polysiloxane and **methyilsilsesquioxane** and photoacid generator)

IT Adhesion, physical  
 (spin-on-glass composition containing polysiloxane and **methyilsilsesquioxane** and photoacid generator and its adhesion to top photoresist in trilayer photoimaging process)

IT Positive **photoresists**  
 Thermal stability  
 (spin-on-glass **composition** containing polysiloxane and **methyilsilsesquioxane** and photoacid generator for trilayer photolithog. process)

IT **Sol-gel** processing  
 (spin-on-glass precursor composition for trilayer photolithog.)

IT Polysiloxanes, preparation  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Préparation); USES (Uses)  
 (spin-on-glass precursor composition for trilayer photolithog. process containing polysiloxane and **methyilsilsesquioxane** and photoacid generator)

IT 519140-58-0, JSR-IX 795G  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (bottom layer; lithog. evaluation of trilayer photoimaging process using photoresist bottom layer and polysiloxane-based SOG intermediate and chemical amplified top photoresist)

IT 75-59-2, Tetramethylammonium hydroxide  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (developer; lithog. evaluation of trilayer photoimaging process using photoresist bottom layer and polysiloxane-based SOG intermediate and chemical amplified top photoresist)

IT 1185-55-3, Methyltrimethoxysilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (maleic acid catalyzed hydrolysis and condensation in preparation of spin-on-glass material for trilayer photolithog. process)

IT 1569-01-3, 1-Propoxy-2-propanol  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (maleic acid catalyzed hydrolysis and condensation of silanes in propoxypropanol solution in preparation of spin-on-glass material for trilayer photolithog. process)

IT 110-16-7, Maleic acid, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (maleic acid catalyzed hydrolysis and condensation of tetramethoxysilane in propoxypropanol solution in preparation of spin-on-glass material for trilayer photolithog. process)

IT 681-84-5, Tetramethoxysilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (maleic acid catalyzed hydrolysis and condensation of tetramethoxysilane in propoxypropanol solution in preparation of spin-on-glass material for trilayer photolithog. process)

material for trilayer photolithog. process)

IT 110-43-0, 2-Heptanone 123-86-4, Butyl acetate 763-69-9, Ethyl 3-ethoxypropionate 84540-57-8, Propylene glycol methyl ether acetate  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent; stability of polysiloxane-based spin-on-glass precursor material in different solvents)

IT 12002-26-5P, Poly(tetramethoxysilane)  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (spin-on-glass precursor composition for trilayer photolithog. process containing polysiloxane and **methylsilsesquioxane** and photoacid generator)

IT 66003-78-9, Triphenylsulfonium **trifluoromethanesulfonate**  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (spin-on-glass precursor composition for trilayer photolithog. process containing polysiloxane and **methylsilsesquioxane** and photoacid generator)

IT 159873-52-6P, Methyltrimethoxysilane-tetramethoxysilane copolymer  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (spin-on-glass precursor composition for trilayer photolithog. process containing polysiloxane **methylsilsesquioxane** and photoacid generator)

IT 519140-61-5, JSR-M 60G  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (top layer; lithog. evaluation of trilayer photoimaging process using photoresist bottom layer and polysiloxane-based SOG intermediate and chemical amplified top photoresist)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L79 ANSWER 3 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:97616 HCAPLUS  
 DN 138:145069  
 TI Positive-working radiosensitive composition and pattern-forming method for fabrication of optical waveguide  
 IN Tamaki, Kentarou; Utaka, Tomohiro; Nishikawa, Akira  
 PA JSR Corporation, Japan  
 SO PCT Int. Appl., 49 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003010603	A1	20030206	WO 2002-JP7343	20020719
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				



EP 1411390 A1 20040421 EP 2002-751650 20020719  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRAI JP 2001-222706 A 20010724  
 JP 2001-352419 A 20011116  
 WO 2002-JP7343 W 20020719

OS MARPAT 138:145069

AB A pos. type radiation-sensitive imaging composition, which is useful in forming optical waveguide, comprises (A) at least one compound selected from the group consisting of hydrolyzable silane compound (R1)pSi(X)4-p (R1 = C1-12 non-hydrolyzable organic group; X = hydrolyzable group; p = 0-3) a hydrolyzate thereof, and a condensed product therefrom, (B) a **photosensitive acid** generator, and (C) a basic compound A method of forming a precise pattern using the above composition and an optical waveguide fabricated using the method are also claimed.

IC ICM G03F007-075  
 ICS G03F007-039; G03F007-004; G02B006-12

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 73

ST pos working radiosensitive imaging polysiloxane; optical waveguide fabrication polysiloxane photoresist

IT **Silsesquioxanes**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic-polysiloxane-; pos.-working radiosensitive **resist composition** for fabrication of optical waveguide)

IT Polysiloxanes, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic-**silsesquioxane**-; pos.-working radiosensitive **resist composition** for fabrication of optical waveguide)

IT Optical waveguides  
 Photoimaging materials  
 (pos.-working radiosensitive **resist composition** for fabrication of optical waveguide)

IT **Silsesquioxanes**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (pos.-working radiosensitive **resist composition** for fabrication of optical waveguide)

IT **Silsesquioxanes**  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (silicate-; pos.-working radiosensitive **resist compn** . for fabrication of optical waveguide)

IT Silicates, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (**silsesquioxane**-; pos.-working radiosensitive **resist composition** for fabrication of optical waveguide)

IT 494221-46-4  
 RL: MOA (Modifier or additive use); USES (Uses) (**acid-generator**; pos.-working **radiosensitive resist composition** for fabrication of optical waveguide)

IT 141087-45-8P, Phenyltrimethoxysilane-tetraethoxysilane copolymer  
 162816-07-1P, Methyltrimethoxysilane-phenyltrimethoxysilane copolymer  
 494221-43-1P 494221-44-2P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos.-working radiosensitive **resist composition** for  
 fabrication of optical waveguide)  
 IT 75-59-2, Tetramethylammonium hydroxide  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (pos.-working radiosensitive **resist composition** for  
 fabrication of optical waveguide)  
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L79 ANSWER 4 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:172252 HCAPLUS  
 DN 136:224212  
 TI Photosensitive polysilazane composition, method of forming pattern  
 therefrom, and method of sintering coating film thereof  
 IN Nagahara, Tatsuro; Matsuo, Hideki  
 PA Clariant International Ltd., Switz.  
 SO PCT Int. Appl., 67 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002019037	A1	20020307	WO 2001-JP7251	20010824
	W: CN, KR, SG, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	JP 2002072502	A2	20020312	JP 2000-262703	20000831
	JP 3414708	B2	20030609		
	JP 2002072504	A2	20020312	JP 2000-268510	20000905
	JP 3414710	B2	20030609		
	JP 2002107937	A2	20020410	JP 2000-297107	20000928
	JP 3421009	B2	20030630		
	EP 1239332	A1	20020911	EP 2001-958459	20010824
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	US 2003113657	A1	20030619	US 2002-110656	20020828
PRAI	JP 2000-262703	A	20000831		
	JP 2000-268510	A	20000905		
	JP 2000-297107	A	20000928		
	WO 2001-JP7251	W	20010824		

AB A pos. photosensitive polysilazane composition comprises: a modified **silsesquiazane** having basic structural units represented by the general formula  $-\text{[SiR}_6\text{(NR}_7\text{)]}_{1.5}-$ , containing other structural units represented by the general formula  $-\text{[SiR}_6\text{2NR}_7\text{]}-$  and/or  $-\text{[SiR}_6\text{3(NR}_7\text{)0.5]}-$  (R<sub>6-7</sub> = H, C1-3 alkyl, or (un)substituted phenyl) in an amount of 0.1-100 mol based on the basic structural units, and having a number-average mol. weight of 100-100,000; and a photo-acid generator. It preferably contains a water-soluble compound as a shape stabilizer. The composition is applied to a substrate and pattern-wise exposed to light. The coating process film exposed is moistened and then developed with an aqueous alkali solution. The resultant pattern is wholly exposed to light; subsequently moistened again, and then burned. Thus, a fine silica-based ceramic film which has satisfactory properties and is suitable as an interlayer dielec. is formed in a short time.

IC ICM G03F007-38  
 ICS G03F007-40; G03F007-075; G03F007-004; C08L083-16; C08K005-3492; C08K005-42

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 57, 76  
 ST photosensitive polysilazane compn sintering coating film  
 IT Dielectric films  
     **Photoresists**  
     (photosensitive polysilazane **composition**, method of forming pattern therefrom, and method of sintering coating film thereof)  
 IT Polysiloxanes, preparation  
     RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (reaction product with ammonia; polysilazane in photosensitive polysilazane composition)  
 IT Silazanes  
     RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (**silsesquiazanes**; photosensitive polysilazane composition, method of forming pattern therefrom, and method of sintering coating film thereof)  
 IT 71255-78-2 82424-53-1, Benzeneacetonitrile, 4-methoxy- $\alpha$ -[[[(4-methylphenyl)sulfonyl]oxy]imino]- 128553-67-3  
     RL: TEM (Technical or engineered material use); USES (Uses)  
     (photo-**acid** generator in **photosensitive** polysilazane composition)  
 IT 7664-41-7DP, Ammonia, reaction product with **silsesquioxane** 402570-03-ODP, Methyltrichlorosilane-Dimethyldichlorosilane-Trimethylchlorosilane hydrolytic copolymer, reaction product with ammonia  
     RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (polysilazane in photosensitive polysilazane composition)  
 IT 79-46-9, 2-Nitropropane 88-74-4, 2-Nitroaniline 108-32-7, Propylene carbonate 9003-04-7, Aron A 20P  
     RL: TEM (Technical or engineered material use); USES (Uses)  
     (shape stabilizer in photosensitive polysilazane composition)  
 RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
     ALL CITATIONS AVAILABLE IN THE RE FORMAT

L79 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:131262 HCAPLUS

DN 136:207677

TI Positive-working **photoresist compositions** and substrates equipped with **photoresist** layers

IN Ogata, Toshiyuki; Endo, Kotaro; Komano, Hiroshi

PA Tokyo Ohka Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

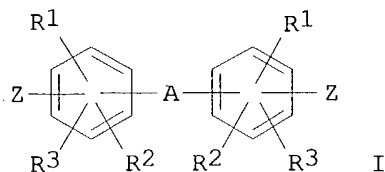
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2002055452	A2	20020220	JP 2000-240871	20000809
	US 2002025495	A1	20020228	US 2001-922723	20010807
PRAI	JP 2000-240871	A	20000809		
OS	MARPAT 136:207677				
GI					

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



- AB The compns. contain (A) alkaline-**soluble** polysiloxanes, (B) radiation-activated photoacid generators, and (C) compds. with their H on phenolic OH or carboxyl groups substituted with  $\geq 1$  acid dissociative groups. Preferable compds. for component (C) is given in Markush I (Z = OH, carboxyl; R1-3 = H, OH, halogen, C1-5 alkoxy, C1-6 linear, branched, or cyclic alkyl; A = direct bond, (carboxyl-substituted) C1-5 alkylene or C2-5 alkylidene, carbonyl, Q, Q1, Q2; R4 = H, C1-5 alkyl; R5-6 = H, halogen, OH, C1-5 alkyl or alkoxy; R7-8 = C1-5 alkyl; R9-10 = H, OH, C1-5 alkyl; m = integer of 1-6) with its H on Z substituted with tertiary alkyloxycarbonylalkyl, tertiary alkyloxycarbonyl, tertiary alkyl, cyclic ether, and/or alkoxyalkyl. Substrates with a 1st resist layer consisting of an organic polymer and a 2nd 50-200 nm-thick resist layer comprising the claimed compns. are also claimed. Resist patterns with high resolution and excellent profiles are formed by irradiation with excimer lasers or extreme UV beams.
- IC ICM G03F007-039  
ICS C08G077-50; C08G077-52; C08L083-06; C08L083-14; G03F007-11; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST pos photoresist extreme UV patterning; alk **sol** polysiloxane pos photoresist; **acid** dissociative tertiaryalkylbiphenyl **photosensitive** polymer compn
- IT Photoimaging materials  
Positive photoresists  
(alkaline-**soluble** polysiloxane-based pos. photoresist compns. containing photoacid generators and acid-dissociative compds.)
- IT **Silsesquioxanes**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkaline-**soluble** polysiloxane-based pos. photoresist compns. containing photoacid generators and acid-dissociative compds.)
- IT 400611-24-7P, p-Methoxybenzyltrichlorosilane-phenyltrichlorosilane copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkaline-**soluble** polysiloxane-based pos. photoresist compns. containing photoacid generators and acid-dissociative compds.)
- IT 117458-06-7 145531-11-9 303108-81-8 340755-42-2  
RL: TEM (Technical or engineered material use); USES (Uses)  
(alkaline-**soluble** polysiloxane-based pos. photoresist compns. containing photoacid generators and acid-dissociative compds.)
- IT 66003-78-9, Triphenyl sulfonium **trifluoromethanesulfonate**  
RL: MOA (Modifier or additive use); USES (Uses)  
(photoacid generator; alkaline-**soluble** polysiloxane-based pos. photoresist compns. containing photoacid generators and acid-dissociative compds.)
- IT 81458-41-5, OFPR 800

RL: TEM (Technical or engineered material use); USES (Uses)  
(underlayer of bilayer-structured photoresist; alkaline-**soluble**  
polysiloxane-based pos. photoresist compns. containing photoacid generators  
and acid-dissociative compds.)

L79 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:469377 HCAPLUS  
DN 135:84299  
TI Positive-working **photoresist compositions** comprising  
alkaline-**soluble silsesquioxanes**  
IN Mizutani, Kazuyoshi; Yasunami, Shoichiro  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 45 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001174998	A2	20010629	JP 1999-354710	19991214
	US 2001038967	A1	20011108	US 2000-729178	20001205
	US 6346363	B2	20020212		
	TW 523639	B	20030311	TW 2000-89125898	20001205
PRAI	JP 1999-346316	A	19991206		
	JP 1999-354710	A	19991214		

AB The compns. contain **silsesquioxanes** having structural repeating  
unit [Si(LXZ)O3/2] (L = ANHCO, ANHCO2, ANHCONH; A = single bond, alkylene,  
arylene; X = single bond, bivalent bond; Z = C6H5-1(OH)1,  
CY3-m[C6H5-1(OH)1,m; Y = H, linear, branched, or cyclic alkyl, aryl, or  
aralkyl; l, m = integer of 1-3). Also claimed are pos. photoresist  
compns. containing (a) the above stated **silsesquioxanes**, (b)  
photoacid generators, and (c1) phenolic compds. which their phenolic OH  
groups are completely protected with acid-decomposing groups or (c2) aromatic

or

aliphatic carboxylic acids which their carboxyl groups are completely  
protected with acid-decomposing groups. The compns. have high sensitivity  
and high resolution and are especially suitable for use as upper-layer resists

in

bilayered resists used for fabrication of semiconductor devices, liquid  
crystal displays, etc.

IC ICM G03F007-075

ICS C08L083-08; G03F007-039; H01L021-027; H05K003-06

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and  
Other Reprographic Processes)

Section cross-reference(s): 38

ST **silsesquioxane** pos photoresist high resolu sensitivity; amide  
contg **silsesquioxane** pos photoresist

IT **Silsesquioxanes**

RL: TEM (Technical or engineered material use); USES (Uses)

(amide group-containing; pos.-working photoresist compns. comprising

alkaline-

**soluble** amide group-containing **silsesquioxanes**)

IT Positive photoresists

(pos.-working photoresist compns. comprising alkaline-**soluble** amide  
group-containing **silsesquioxanes**)

IT 153698-46-5, Triphenylsulfonium **pentafluorophenylsulfonate**  
197447-16-8, Triphenylsulfonium 2,4,6-triisopropylphenylsulfonate  
335385-79-0 346702-86-1

RL: MOA (Modifier or additive use); USES (Uses)

(acid generator; pos.-working photoresist compns. comprising alkaline-**soluble** amide group-containing **silsesquioxanes**)

IT 153698-54-5 153698-63-6 199432-82-1 346702-85-0  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (pos.-working photoresist compns. comprising alkaline-**soluble** amide group-containing **silsesquioxanes**)

IT 126-00-1DP, Diphenolic acid, reaction products with **silsesquioxanes** 156-38-7DP, 4-Hydroxyphenylacetic acid, reaction products with aminopropyltrimethoxysilane-chloromethyltrimethoxysilane copolymer 54115-51-4DP, 3-Aminopropyltrimethoxysilane homopolymer, reaction product with diphenolic acid 161376-90-5DP, reaction product with diphenolic acid 346702-97-4DP, reaction product with diphenolic acid and hydroxyphenylacetic acid  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos.-working photoresist compns. comprising alkaline-**soluble** amide group-containing **silsesquioxanes**)

IT 346702-87-2 346702-89-4 346702-91-8 346702-93-0 346702-95-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos.-working photoresist compns. comprising alkaline-**soluble** amide group-containing **silsesquioxanes**)

L79 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:312433 HCAPLUS  
 DN 134:327845  
 TI Method and composition for treating fibrous substrates to impart oil, water and dry soil repellency  
 IN Knowlton, Barry R.  
 PA Can.  
 SO U.S., 8 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6225403	B1	20010501	US 1999-243019	19990203
PRAI	US 1999-243019		19990203		

AB Treatment compns. contain 0.1-35 parts aqueous colloidal **sol** dispersions containing .apprx.5% to .apprx.26% organosilsesquioxane copolymer particles consisting of units selected from  $\text{RSiO}_3/2$ ,  $\text{R}'_2\text{SiO}$ , and  $\text{R}''_3\text{SiO}1/2$ , wherein each R, R' and R'' radical is selected from C1-7 hydrocarbons, having overall particle sizes .apprx.10 Å to .apprx.2000 Å in a sufficient amount to yield 0.04-0.32% solids based on the weight of the fibrous substrate to which it is applied, 0.00 to .apprx.0.96 parts fluorochem. resins selected from liqs. containing  $\geq 1$  dispersed or emulsified F-containing resin, added as an aqueous fluorochem. dispersion or emulsion wherein the F content of the resin is .apprx.15% to 50% in a sufficient amount to yield .apprx.100 ppm to .apprx.500 ppm F atoms on the fiber, and 64.04-99.9 parts diluent. Thus, a treating solution for a nylon tufted carpet contained FX 1367 1.20, a colloidal **sol** dispersion of an organosiloxane copolymer 1.50, and water 97.30 parts.

IC ICM C08J083-06  
 ICS C08J003-02; C08L027-12; C08L043-04

NCL 524858000

CC 40-9 (Textiles and Fibers)

ST oilproofing waterproofing soilproofing fiber; **organosilsesquioxane fluoropolymer** treatment fiber; nylon carpet oilproofing waterproofing soilproofing

- IT Staining, discoloration  
(blockers; method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Phenols, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(condensates with formaldehyde, sulfonates; method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Colloids  
Dispersion (of materials)  
Fabric finishing  
Oilproofing  
Soilproofing  
Sols  
Waterproofing  
(method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Acrylic polymers, uses  
Sulfonates  
RL: MOA (Modifier or additive use); USES (Uses)  
(method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Fluoropolymers, uses  
Silsesquioxanes  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Polyamide fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(stain blockers; method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT Carpets  
(tufted; method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT 50-00-0D, Formaldehyde, condensates with hydroxyaroms., sulfonated, uses 9011-13-6, Styrene-maleic anhydride copolymer 123513-94-0, Scotchgard FX 369 157351-51-4, Algard NS 174477-45-3, FX 661 179530-37-1, Stain Resist SR 300 336176-02-4, FX 668F  
RL: MOA (Modifier or additive use); USES (Uses)  
(method and composition for treating fibrous substrates with **organosilsesquioxanes** and **fluoropolymers** to impart oil and water and dry soil repellency)
- IT 79-10-7D, Acrylic acid, fluoroalkyl esters, polymers 218433-20-6, Texguard 232D 283599-79-1, Scotchgard FX 1367 336157-28-9, TG 3020 336159-92-3, APG 160 336161-56-9, APG 559  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(method and composition for treating fibrous substrates with  
**organosilsesquioxanes** and **fluoropolymers** to impart  
oil and water and dry soil repellency)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L79 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:280495 HCAPLUS

DN 134:318673

TI Positive-working **photoresist composition** for upper  
**resist** layer of composite two-layer resist

IN Uno, Seiji; Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 58 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001109150	A2	20010420	JP 1999-284457	19991005
PRAI	JP 1999-284457		19991005		
AB	The title composition contains <b>acid-sensitive</b> polysiloxane having repeating unit $\{-\text{Si}[-\text{L}-\text{X}-\text{Np}(\text{Z})_1(\text{OA})_m(\text{Y}-\text{L}-\text{COOB})_n]\text{O}_3/2-\}$ (Np = naphthalene ring; A, B = H, <b>acid-sensitive</b> group; X = single bond; L = C1-10 alkylene, C3-12 cycloalkylene; X, Y = -OCO-; -COO-; -NHCO-; etc.; Z = halo, C1-10 alkyl; C3-12 cycloalkyl; C1-10 alkoxy, etc.; l,m,n = 0-3 integer) and a photoacid generator. The composition, which contains the polysiloxane, provides the improve storageability and generates little faulty resist.				
IC	ICM G03F007-039				
CC	ICS C08L083-06; G03F007-075; G03F007-095; G03F007-26				
ST	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 76 pos working <b>photoresist compn resist</b> layer composite				
IT	<b>Silsesquioxanes</b> RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polysiloxane in pos.-working <b>photoresist composition</b> )				
IT	<b>Photoresists</b> Semiconductor device fabrication (pos.-working <b>photoresist composition</b> for upper <b>resist</b> layer of composite two-layer resist)				
IT	153698-46-5, Triphenylsulfonium pentafluorophenylsulfonate 197447-16-8, Triphenylsulfonium 2,4,6-triisopropylphenylsulfonate 287925-54-6, Bis(p-tert-amylphenyl)iodonium p-tolenesulfonate 287925-55-7, Triphenylsulfonium p-dodecylphenylsulfonate RL: TEM (Technical or engineered material use); USES (Uses) (photoacid generator in pos.-working <b>photoresist composition</b> )				
IT	92-70-6, 3-Hydroxy-2-naphthoic acid 5089-70-3, (3-Chloropropyl)triethoxysilane 15267-95-5, (Chloromethyl)triethoxysilane 16712-64-4, 6-Hydroxy-2-naphthoic acid RL: RCT (Reactant); RACT (Reactant or reagent) (polysiloxane in pos.-working <b>photoresist composition</b> )				
IT	335262-51-6DP, 1-alkoxyethyl and pyranil ethers RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT				

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



(Reactant or reagent)

(polysiloxane in pos.-working **photoresist composition**)

IT 109-53-5DP, hydroxyaryl **silsesquioxane** ethers 110-87-2DP,  
hydroxyaryl **silsesquioxane** ethers 335262-24-3DP, ethers  
335262-24-3P 335262-26-5P 335262-28-7P 335262-30-1P 335262-34-5DP,  
1-alkoxyethyl ether 335262-34-5P 335262-37-8DP, ethers  
335262-39-0DP, ethers 335262-41-4DP, ethers 335262-43-6DP, ethers  
335262-45-8DP, 1-alkoxyethyl ether 335262-49-2DP, 1-alkoxyethyl ether  
335262-53-8DP, 1-alkoxyethyl ethers 335262-56-1DP, 1-alkoxyethyl ether  
335262-59-4DP, 1-alkoxyethyl ether 335262-61-8DP, 1-alkoxyethyl ether  
335277-00-4P 335277-03-7P 335277-06-0P 335277-08-2P 335277-10-6P  
335277-12-8P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)

(polysiloxane in pos.-working **photoresist composition**)

L79 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:133887 HCAPLUS

DN 134:185964

TI Radiation-sensitive **resist composition**

IN Ogata, Toshiyuki; Komano, Hiroshi

PA Tokyo Ohka Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001051422	A2	20010223	JP 1999-223750	19990806
PRAI	JP 1999-223750		19990806		

AB The title composition contains a polysiloxane and a radiation-sensitive  
**acid generator**, wherein the polysiloxane contains repeating units:

(a1) siloxane units containing alkali soluble groups; (a2) siloxane units

having

acid soluble group instead of alkali soluble groups in (a1); and (a3) siloxane  
units having alkali-insol. groups. The composition containing the

polysiloxane is

sensitive to F2 laser and provides a pattern of the high resolution and of  
the good profiles.

IC ICM G03F007-075

ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 76

ST radiation sensitive **resist compn** siloxane

IT Light-sensitive materials

**Photoresists**

Semiconductor device fabrication

(radiation-sensitive **resist composition**)IT **Silsesquioxanes**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)

(radiation-sensitive **resist composition**)

IT 326921-67-9DP, 4-Hydroxyphenylsilanetriol-phenylsilanetriol copolymer  
ester with di-tert-butyl dicarbonate, demethylated, tert-Bu carbonate  
esters

RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or  
engineered material use); PREP (Preparation); RACT (Reactant or reagent);

USES (Uses)  
 (silsesquioxane; radiation-sensitive **resist composition**)

L79 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:663540 HCAPLUS

DN 133:274229

TI Positive-working silicone-containing light-sensitive **resist composition**

IN Yasunami, Shoichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000258914	A2	20000922	JP 1999-65102	19990311
PRAI	JP 1999-65102		19990311		

AB The title composition contains a silicone polymer, which is **soluble** in an alkali solution and insol. in water, a photoacid generator, and a polymer increasing **solubility** towards an alkali solution upon reacting with an acid. The title **composition** provides a far-UV sensitive **resist** of the high resolution and of the high sensitivity and is suitable for use in semiconductor device fabrication.

IC ICM G03F007-039

ICS C08L083-06; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST pos silicone light sensitive **resist compn**

IT Photoresists

(pos.-working silicone-containing light-sensitive **resist composition**)

IT Polysilanes

**Silsesquioxanes**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working silicone-containing light-sensitive **resist composition**)

IT 92068-44-5P, Phenylsilanetriol-methylsilanetriol copolymer

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(ladder copolymer; **silsesquioxane** in light-sensitive **resist composition**)

IT 121-65-3D, triphenylsulfonium salt 313-50-8D,

**Pentafluorophenylsulfonic** acid, triphenylsulfonium salt

16722-51-3D, p-Toluenesulfonate, salt with bis(tert-amylphenyl)iodonium, uses 66003-78-9D, Triphenylsulfonium **trifluoromethanesulfonate**, salt 287925-54-6

RL: TEM (Technical or engineered material use); USES (Uses)

(photoacid generator in light-sensitive **resist compn**.)

IT 51350-55-1P, Phenylsilanetriol homopolymer, ladder sru 157374-41-9P, Phenylsilanetriol homopolymer

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**silsesquioxane** in light-sensitive **resist composition**)

L79 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:600540 HCAPLUS  
 DN 133:215450  
 TI Positive-working photosensitive composition containing silicone  
 IN Sakaguchi, Shinji  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 49 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000235264	A2	20000829	JP 1999-143614	19990524
	TW 530190	B	20030501	TW 1999-88121897	19991214
PRAI	JP 1998-354878	A	19981214		
	JP 1999-143614	A	19990524		
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to a pos.-working photosensitive composition containing;  
 (a)

a water-insol. and alkali-soluble polymer having repeating unit I or II( X = -C=O, H, hydrocarbon, etc.; R'-'-'-' = OH, alkyl, cycloaralkyl, etc.; R0 = H, halo, hydrocarbon; r, s, t = 1-3 integer; u, v = 1, 2; l, m, n, q  $\geq 0$  integer; p > 0 integer; R $\alpha$ - $\gamma$  = single bond, -(CH<sub>2</sub>)<sub>k</sub>-(Z $\alpha$ )-R $\delta$ ; Z $\alpha$  = -COC-, -O-, -N(R $\epsilon$ )-; R $\delta$  = single bond, C1-12 alkylene; arylene, aralkyl; R $\epsilon$  = H, C1-10 alkyl; k =  $\geq 0$  integer; j = 0, 1); (b) a compound generating an acid upon irradiation of actinic or radioactive ray; and (c) an polymer, which increases the solubility towards an alkali developer at the presence of an acid, having repeating unit -(C(R1)(R2)-C(R3)(R4-(G)f))a-, -(C(R5)(R6)-C(R7)(R8-(Q)g))b- (R1-3,5-7,9-11 = H, halo, alkyl, etc.; R4,9 = single bond, 2-5 valent specific aryl, amide group) and -(C(R9)(R10)-C(R11)(R12))c- and **acid-sensitive** group, and (d) a nitrogen containing cyclic compound and/or an aliphatic amine having

a

carboxylic substituent. The composition provides the high sensitivity and the high resolution and is suitable for use in a semiconductor device production

IC ICM G03F007-075

ICS C08L083-06; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST pos working photosensitive compn silicone

IT **Silsesquioxanes**

**Silsesquioxanes**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polysilane-; pos.-working photosensitive composition containing silicone)

IT **Photoresists**

(pos.-working photosensitive **composition** containing silicone)

IT Polysilanes

Polysilanes

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**silsesquioxane**-; pos.-working photosensitive composition containing silicone)

IT 7446-70-0, Aluminum chloride, uses

RL: MOA (Modifier or additive use); USES (Uses)  
(pos.-working photosensitive composition)

IT 51350-55-1D, Poly(**phenylsilsesquioxane**), modified under aluminum chloride

RL: RCT (Reactant); RACT (Reactant or reagent)  
(pos.-working photosensitive composition)

IT 109-12-6, 2-Aminopyrimidine 119-65-3, Isoquinoline 260-94-6, Acridine 504-29-0, 2-Aminopyridine 534-85-0, 2-Aminodiphenylamine 580-20-1, 7-Hydroxyquinoline 607-31-8, 4-Methoxyquinoline 611-64-3, 9-Methylacridine 620-08-6, 4-Methoxypyridine 670-95-1, 4-Phenylimidazole 822-36-6, 4-Methylimidazole 18123-20-1, 4-Hydroxyacridine 23687-25-4, 4-Aminoisoquinoline 31401-45-3, 4-Dimethylaminopyrimidine 36631-19-3, Triphenyl imidazole 177034-67-2 287925-54-6 287925-56-8 288620-13-3 288620-15-5 289706-73-6 289706-75-8 289706-76-9 289706-79-2 289706-80-5 289706-81-6 289706-82-7 289706-83-8 289706-84-9 289706-85-0 289706-86-1 289706-87-2 289706-88-3 289706-90-7

RL: TEM (Technical or engineered material use); USES (Uses)  
(pos.-working photosensitive composition)

L79 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:551257 HCAPLUS

DN 133:185525

TI Positive-working silicon-containing photosensitive composition

IN Yasunami, Shoichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000221685	A2	20000811	JP 1999-20224	19990128
	US 6270941	B1	20010807	US 2000-493285	20000128
PRAI	JP 1999-20224	A	19990128		
	JP 1999-31591	A	19990209		

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The pos.-working Si-containing photosensitive composition comprises (a) a water-insol. and alkaline-**soluble** polymer I and/or II, (X = COOH, etc.; R'-R'''' = hydroxy, alkyl, cycloalkyl, etc.; Y = alkyl, alkoxy, etc.; R0 = H, halo, etc.; l, m, n, q = 0, pos. integer; and p = pos. integer), (b) a photoacid, and (c) a polymer which has specific groups in its side chain and increases its **solubility** in an alkaline developer upon reaction with an acid. The pos.-working Si-containing photosensitive composition has a small optical absorption at a deep-UV region.

IC ICM G03F007-075

ICS C08L083-06; G03F007-039; H01L021-027

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 35, 38, 76

ST photosensitive **compn photoresist**

IT Photoimaging materials  
**Photoresists**  
 (Pos.-working silicon-containing photosensitive **composition** for **photoresists**)

IT Polysiloxanes, uses  
**Silsesquioxanes**  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (Pos.-working silicon-containing photosensitive **composition** for **photoresists**)

IT 51350-55-1, **Polyphenylsilsesquioxane** 66003-78-9,  
**Triphenylsulfoniumtrifluoromethanesulfonate** 153698-46-5  
 177080-68-1, 2-Methyl-2-adamantyl methacrylate-mevalonic methacrylate copolymer 195000-64-7 197447-16-8 287925-55-7 288258-94-6  
 288258-96-8  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (Pos.-working silicon-containing photosensitive **composition** for **photoresists**)

L79 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:127236 HCAPLUS

DN 126:137683

TI Silicon-containing high-molecular-weight compound and photosensitive resin composition

IN Iwasa, Shigeyuki

PA Nec Corporation, Japan

SO Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW

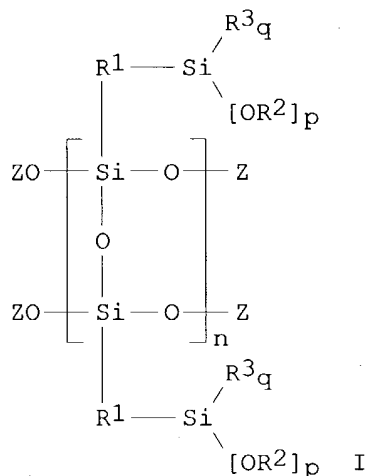
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 745633	A2	19961204	EP 1996-108666	19960530
	EP 745633	A3	19970820		
	EP 745633	B1	20000802		
	R: DE, GB				
	JP 08325455	A2	19961210	JP 1995-133586	19950531
	US 5723257	A	19980303	US 1996-660183	19960531
PRAI	JP 1995-133586	A	19950531		

GI



AB The title compound is expressed by the general formula I where R1 represents a C2-8 divalent saturated hydrocarbon group, R2, R3 represent a C1-8 hydrocarbon group, Z represents a hydrocarbon or trimethylsilyl group, p is 1 to 3, q is 0 to 2 with p + q = 3, and n is a pos. integer of 10 to 500 and obtained by crosslinking an acid obtained by a **polysilsesquioxane** having a vinyl group in a side chain and alkoxy silane. A photosensitive resin composition is obtained by combining the Si-containing compound with a **photosensitive acid** generator.

IC ICM C08G077-14

ICS C08L083-06

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photosensitive **compn** silicon compd **photoresist**

IT **Silsesquioxanes**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(organo-; photoresists containing **photosensitive acid** generators and)

IT Photoresists

(with silicon-containing high-mol.-weight compds. and **photosensitive acid** generators)

IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 160481-39-0

RL: TEM (Technical or engineered material use); USES (Uses)

(photoresists containing **organosilsesquioxanes** and)

L79 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:721318 HCAPLUS

DN 125:342914

TI Radiation-sensitive alkoxy siloxane composition, its film, and patterning

IN Sakata, Yoshikazu

PA Oki Electric Ind Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

PI JP 08220765 A2 19960830 JP 1995-50460 19950215  
 PRAI JP 1995-50460 19950215  
 AB The composition contains a polyalkoxysiloxane, an acid generator, and high-b.p. solvent. The film is obtained by applying the composition on a material, exposing, and heating. Patterning is obtained by developing the film. The composition is useful for manufacture of semiconductor integrated circuits. A mask pattern was obtained without cracks.  
 IC ICM G03F007-075  
 ICS G03F007-004; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38, 76  
 ST radiation sensitive alkoxysiloxane patterning semiconductor;  
**alkoxysilsesquioxane** radiation sensitive patterning semiconductor  
 IT Siloxanes and Silicones, processes  
**Silsesquioxanes**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (alkoxy, radiation-sensitive alkoxysiloxane composition for patterning without cracks)  
 IT **Resists**  
 (photo-, radiation-sensitive alkoxysiloxane **composition** for patterning without cracks)  
 IT 66003-78-9, Triphenylsulfonium triflate  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (**acid** generator; radiation-sensitive alkoxysiloxane composition for patterning without cracks)  
 IT 183732-98-1P  
 RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (radiation-sensitive alkoxysiloxane composition for patterning without cracks)  
 IT 158380-34-8 168850-85-9 183732-90-3 183732-94-7  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (radiation-sensitive alkoxysiloxane composition for patterning without cracks)  
 IT 108-39-4, uses 111-46-6, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent; radiation-sensitive alkoxysiloxane composition for patterning without cracks)  
 L79 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:641024 HCAPLUS  
 DN 125:288804  
 TI Photosensitive siloxane **compositions** for use in double-layer **resist** process  
 IN Sakata, Yoshikazu  
 PA Oki Electric Ind Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
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PI JP 08193167 A2 19960730 JP 1995-4573 19950117  
 PRAI JP 1995-4573 19950117  
 AB The compns. comprise siloxanes having epoxy-containing alkyl groups and agents which generate acids by exposure. Top layers of resists obtained by the compns. give patterns having high resistance to O-reactive ion etching, and the compns. are suitable for manufacture of semiconductor devices.  
 IC ICM C08L083-06  
 ICS C08G077-14; C08K005-00; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 37, 76  
 ST **photosensitive** epoxy siloxane **acid** generator blend; photoresist epoxy siloxane acid generator blend; double layer resist photosensitive epoxy siloxane; reactive ion etching resistance epoxy siloxane; semiconductor device manuf photoresist epoxy siloxane  
 IT **Silsesquioxanes**  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (epoxy-containing; photosensitive siloxane compns. for use in double-layer resist process)  
 IT Semiconductor devices  
 (photosensitive siloxane compns. for use in double-layer resist process)  
 IT Siloxanes and Silicones, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (epoxy-containing; photosensitive siloxane compns. for use in double-layer resist process)  
 IT Resists  
 (photo-, photosensitive siloxane compns. for use in double-layer resist process)  
 IT 66003-78-9, Triphenylsulfonium triflate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (**acid** generators; **photosensitive** siloxane compns. for use in double-layer resist process)  
 IT 1174-72-7, Tetraphenoxysilane  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agent; photosensitive siloxane compns. for use in double-layer resist process)  
 IT 182424-16-4 182424-17-5, Poly[oxy[bis(oxiranyl)silylene]] 182424-19-7 182579-55-1  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (photosensitive siloxane compns. for use in double-layer resist process)  
 L79 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:659483 HCAPLUS  
 DN 123:44377  
 TI Environmentally stable highly **sensitive acid** amplifier photoresists.  
 IN Lee, Kim Yang; Sachdev, Krishna Gandhi; Sachdev, Harbans Singh; Sooriyakumaran, Ratnam; Jagannathan, Premalatha; Khojasteh, Mahmoud M.; Katnani, Ahmad Dauod; Kwong, Rane Wai-Ling; Brunsvold, William Ross; et al.  
 PA International Business Machines Corp., USA  
 SO Eur. Pat. Appl., 17 pp.  
 CODEN: EPXXDW  
 DT Patent



LA English

FAN.CNT 2

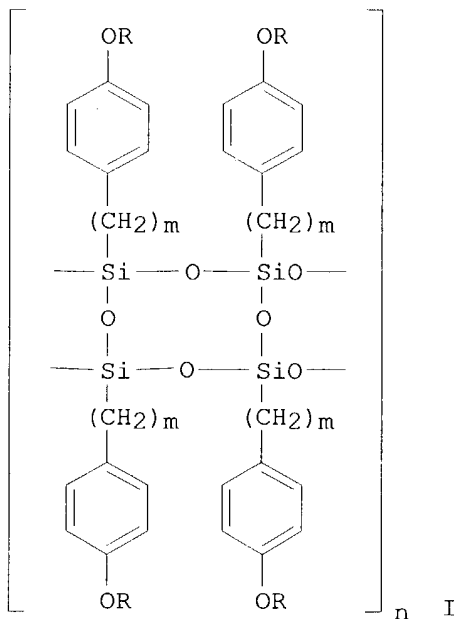
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 628876	A1	19941214	EP 1994-480046	19940525
	R: DE, FR, GB				
	JP 07140666	A2	19950602	JP 1994-93265	19940502
	JP 10182989	A2	19980707	JP 1997-252492	19970917
	JP 3014350	B2	20000228		
PRAI	US 1993-71095	A	19930604		
	JP 1994-93265	A3	19940502		
AB	An <b>acid sensitive</b> polymeric compns., an improved chemical amplified microlithog. resist compns. comprising the <b>acid sensitive</b> polymer compns., and method for the preparation and used thereof are described where the compns. comprise, in admixt., a polymeric binder, an acid labile moiety which provides selective aqueous base <b>solubility</b> upon cleavage, and a compound that generate acid upon exposure of the <b>resist composition</b> to <b>imaging</b> radiation. More particularly, the compns. have $\geq 1$ acid labile ketal groups, which may be chemical linked to a polymeric resin or which may be incorporated into a sep. component to form a dissoln. inhibitor. The compns. exhibit reduced sensitivity to environmental contaminants when compared to known acid amplified resist compns., and may optionally be processed without a post exposure bake step. Such compns. are especially useful in the fabrication of integrated circuit devices by microlithog. techniques.				
IC	ICM G03F007-004				
	ICS G03F007-039				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 76				
ST	environmentally stable acid amplifier photoresist				
IT	<b>Silsesquioxanes</b> RL: MOA (Modifier or additive use); USES (Uses) (environmentally stable highly <b>sensitive acid</b> amplifier photoresists.)				
IT	Electric circuits (integrated, environmentally stable highly <b>sensitive acid</b> amplifier photoresists.)				
IT	Resists (photo-, environmentally stable highly <b>sensitive acid</b> amplifier composition)				
IT	116-11-0D, polyhydroxystyrene substituted with 1478-61-1D, methoxypropyl substituted 1487-15-6D, 4,5-Dihydro-2-methylfuran, polyhydroxystyrene substituted with 1694-31-1D, tert-Butyl acetoacetate, reaction product with polyhydroxystyrene, diazotized 24979-70-2D, p-Hydroxystyrene homopolymer, substituted 25086-36-6D, Formaldehyde-m-cresol copolymer, methoxypropyl substituted 27955-94-8D, methoxypropyl substituted RL: MOA (Modifier or additive use); USES (Uses) (environmentally stable highly <b>sensitive acid</b> amplifier photoresists.)				
IT	28322-50-1 133710-62-0 164579-37-7 RL: MOA (Modifier or additive use); USES (Uses) (photoacid generator; environmentally stable highly <b>sensitive acid</b> amplifier photoresists.)				

L79 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1995:367480 HCAPLUS

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

DN 122:147310  
 TI **Acid-sensitive** resist and patterning of same  
 PA International Business Machines Corp., USA  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06184311	A2	19940705	JP 1993-210073	19930825
	JP 2501292	B2	19960529		
	US 5338818	A	19940816	US 1992-943086	19920910
PRAI	US 1992-943086	A	19920910		
GI					



AB The title pos.-working resist contains **acid-sensitive arylsilsesquioxanes** [ I; m = 0, 1; n ≥ 3; ≥ 15% of R is tert-butyloxycarbonyl, secondary alkyloxycarbonyl, other inactive benzyloxycarbonyl with the remainder H] containing protected phenolic OHs in a pendant group capable of yielding phenolic OHs upon reaction with acids, the protective group serving as a dissoln. inhibitor. The title patterning is effected by coating a substrate with the **resist composition** containing the above polymer, a photo acid generator, and anthracene-type sensitizers, baking, patternwise exposing, and developing with alkali.

IC ICM C08G077-38  
 ICS C08L083-06; G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photoresist acid generating pos working; **silsesquioxane** pos working resist

IT **Silsesquioxanes**  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photoresist compns. containing **acid-sensitive**)

IT Resists  
 (photo-, **acid-sensitive silsesquioxane**)

IT 24424-99-5DP, Di-tert-butyl dicarbonate, reaction product with poly(**hydroxybenzylsilsesquioxane**)  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos.-working **photoresist composition** containing)

IT 161055-58-9P, Trichloro[(4-methoxyphenyl)methyl]silane hydrolytic homopolymer 161099-32-7DP, hydrolyzed, esters with di-tert-Bu dicarbonate  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (pos.-working **photoresist composition** from)

L79 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:229101 HCAPLUS

DN 122:20501

TI Photoresist and manufacture of semiconductor device

IN To, Yoichi

PA Sony Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06110210	A2	19940422	JP 1991-313696	19911031
PRAI	JP 1991-313696		19911031		

AB The title photoresist is formed by forming a **photoresist composition** layer containing a compound which will become **soluble** in a developer on contact with an acid, a photo-acid generator, and forming a gas-impermeable polymer layer. The manufacture of a semiconductor device involves forming the above photoresist, **imagewise** exposing to light, developing to obtain a resist pattern.

IC ICM G03F007-039

ICS G03F007-004; G03F007-029; G03F007-26; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photoresist gas impermeable polymer layer; semiconductor device manuf photoresist

IT **Silsesquioxanes**  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (TSIR 105; photoresist layer covered with)

IT Semiconductor devices  
 (photoresist for manufacture of)

IT Rosin  
 Siloxanes and Silicones, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoresist layer covered with)

IT Resists  
 (photo-, gas-impermeable polymer layer covered)

IT 9002-89-5, Polyvinyl alcohol 64080-44-0, Cytop

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

RL: TEM (Technical or engineered material use); USES (Uses)  
(photoresist layer covered with)

L79 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:41989 HCAPLUS

DN 120:41989

TI Crosslinkable and aqueous-developable **photoresist compositions** and method for use thereof

IN Sachdev, Harbans Singh; Conley, Willard Earl; Jagannathan, Premalatha; Katnani, Ahmad Dauod; Kwong, Raneai Wai Ling; Linehan, Leo Lawrence; Miura, Steve Seiichi; Smith, Randolph Joseph

PA International Business Machines Corp., USA

SO Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 543761	A1	19930526	EP 1992-480157	19921023
	EP 543761	B1	20000614		
	R: DE, FR, GB				
	US 5296332	A	19940322	US 1991-796155	19911122
	JP 05249676	A2	19930928	JP 1992-331268	19921118
PRAI	US 1991-796155	A	19911122		
AB	High-sensitivity, high-contrast, heat-stable photoresist compns. for use in deep-UV, i-line, e-beam, or x-ray lithog. These compns. comprise a film-forming polymer having aromatic rings activated for electrophilic substitution, an acid-catalyzable crosslinking agent which forms a hydroxy-stabilized carbonium ion, and a <b>photosensitive acid</b> generator and are aqueous base-developable.				
IC	ICM G03F007-038				
	ICS G03F007-075; G03F007-004				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	<b>photoresist</b> crosslinkable <b>compn</b> ; x ray lithog resist; electron beam resist				
IT	<b>Silsesquioxanes</b>				
	RL: USES (Uses)				
	(hydroxybenzyl, photoresist compns. containing)				
IT	Resists				
	(photo-, crosslinkable and aqueous-developable)				
IT	91-04-3, 2,6-Dihydroxymethyl-p-cresol 2937-59-9 2948-46-1 3957-22-0				
	6781-43-7 6781-44-8 9008-61-1, Xylenol-formaldehyde copolymer				
	9016-83-5, Cresol-formaldehyde copolymer 19576-38-6 27138-01-8,				
	$\alpha, \alpha, \alpha', \alpha'$ -Tetramethylbenzene dimethanol				
	37394-26-6 56025-61-7 59269-51-1, Polyhydroxystyrene 109129-38-6				
	126928-28-7, Ethylphenol-formaldehyde copolymer 130604-07-8				
	152027-46-8 152111-39-2 152111-60-9, Poly[(4-hydroxyphenyl)methylsilylene]				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(photoresist compns. containing, crosslinkable and aqueous-developable)				

L79 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1993:519699 HCAPLUS

DN 119:119699

TI Light-sensitive silicone resin **compositions** with good heat **resistance** and formation of interlaminar electrically insulating films

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IN Fukuyama, Shunichi; Kobayashi, Tomoko  
 PA Fujitsu Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05017686	A2	19930126	JP 1991-170295	19910711
PRAI	JP 1991-170295		19910711		

AB The title compns. comprise silicone resins bearing aromatic acid anhydrides on the side chains and Si compds. bearing polyfunctional lower oxides on the side chains, and optionally acid generators which generate acids by light irradiation Interlaminar elec. insulation of integrated circuits is achieved using the compns. Thus, 5 g 1,4-bis(phthalatodichlorosilyl)benzene and 5 g 1,4-bis(phenyldichlorosilyl)methane were polymerized in H<sub>2</sub>O-MIBK in the presence of Et<sub>3</sub>N, then treated with 20 mL glycidylepoxydimethylisocyanatosilane to give an aromatic acid anhydride group-containing silicone, 95 parts of which was mixed with 5 parts ethyleneoxymethylphenyldisiloxane, dissolved in MIBK at 30% concentration, then mixed with 2% (based on resin) diphenyliodonium chloride to give a resin solution, which was spin coated on Si substrate having a semiconductor element and Al wires, dried and irradiated with .apprx.400 mJ/cm<sup>2</sup> UV, then the semiconductor device was prepared by according to the usual method. The semiconductor device showed good resistance to heating at 450° for 1 h and 10 cycles of thermal impact at -65 to 150°.

IC ICM C08L083-04

ICS H01L021-283; H01L021-90

ICA H01L021-312

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 76

ST silicone coating light sensitive; elec insulator silicone coating; interlaminar insulator integrated circuit silicone; heat resistance silicone coating insulating; acid generator silicone coating

IT Siloxanes and Silicones, uses

#### **Silsesquioxanes**

RL: USES (Uses)

(aromatic anhydride group-containing, coatings containing epoxy-containing silicon compds., light-sensitive, heat-resistant, for elec. insulators for integrated circuits)

IT Epoxides

RL: USES (Uses)

(silicon compds., coatings, with aromatic anhydride group-containing silicones, light-sensitive, heat-resistant, for elec. insulators for integrated circuits)

IT Electric insulators and Dielectrics

(coatings, aromatic acid anhydride-containing silicone blends, with epoxy-containing silicon compds., light-sensitive, heat-resistant)

IT Electric circuits

(integrated, interlaminar insulators for, silicone coatings, light-sensitive, heat-resistant)

IT 1483-72-3, Diphenyliodonium chloride

RL: USES (Uses)

(acid generators, light-sensitive silicone coatings containing)

IT 2627-97-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(epoxidn. of)  
 IT 149637-07-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrolytic polymerization of, with bis(phenyldichlorosilyl)methane)  
 IT 26799-08-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrolytic polymerization of, with bis(phthalatodichlorosilyl)benzene)

L79 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1993:263883 HCAPLUS  
 DN 118:263883  
 TI Radiation-sensitive resin **composition** for **resist**  
 IN Ito, Toshio; Kosuge, Maki; Sakata, Yoshikazu  
 PA Oki Electric Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04366958	A2	19921218	JP 1991-143423	19910614
PRAI	JP 1991-143423		19910614		
AB	The title composition contains a polysiloxane, a crosslinking agent, and a radiation-sensitive acid-generating agent. The title composition shows high sensitivity.				
IC	ICM G03F007-038 ICS G03F007-004; G03F007-029; G03F007-075; H01L021-027				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	<b>resist</b> radiation sensitive resin <b>compn</b> ; siloxane radiation sensitive resin <b>compn</b> ; acid generating agent resin <b>compn</b> ; crosslinking agent resin <b>compn</b>				
IT	<b>Silsesquioxanes</b> RL: PREP (Preparation) (preparation of, for radiation-sensitive compns.)				
IT	Siloxanes and Silicones, uses RL: USES (Uses) (radiation-sensitive compns. containing)				
IT	Resists (resin compns. for)				
IT	947-42-2, Diphenylsilanediol 1174-72-7, Tetraphenoxysilane 1678-43-9, Benzoin p-toluenesulfonate 2754-32-7, 1,4-Bis(hydroxydimethylsilyl)benzene 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate RL: USES (Uses) (radiation-sensitive resin compns. containing)				

L79 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1991:644078 HCAPLUS  
 DN 115:244078  
 TI Photosensitive resin **compositions**, and **resist** pattern formation  
 IN Koibuchi, Shigeru; Isobe, Asao; Nate, Kazuo  
 PA Hitachi Chemical Co., Ltd., Japan; Hitachi, Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03144648	A2	19910620	JP 1989-284345	19891031
PRAI	JP 1989-284345		19891031		
AB	<p>The compns. contain (a) alkali-<b>soluble</b> p-hydroxybenzyl <b>silsesquioxane</b> with st.-average mol. weight 1000-50,000, (b) esters containing 1,2-naphthoquinone- (2)-diazide compds., and (c) 0.001-10 parts <b>F</b>-containing surfactants per 100 parts <b>silsesquioxane</b>. Resist pattern formation involves coating of the compns. on substrate, exposure and development. Alkali-developable resists with smooth surface with high resistance to plasma etching are obtained. Thus, a composition containing p-<b>hydroxybenzylsilsesquioxane</b> 20, 2,3,4-trihydroxybenzophenone 1,2-naphthoquinone-(2)-diazidesulfonate ester 4, and surfactant FC431 0.01 parts was applied on Si wafer and dried to obtain a layer, which was exposed and developed with 0.6% Me4NOH to obtain resist pattern with 1-<math>\mu</math>m-wide lines. The resist layer showed smoothness <math>\leq 100</math> Å.</p>				
IC	<p>ICM G03F007-022 ICS G03F007-075; H01L021-027</p>				
ICA	C08L083-06				
CC	<p>74-5 (Radiation Chemistry, Photochemistry, and <b>Photographic</b> and Other Reprographic Processes) Section cross-reference(s): 38</p>				
ST	photoresist hydroxybenzyl <b>silsesquioxane</b> fluorine surfactant				
IT	<p>Surfactants (<b>fluorine</b>-containing, photoresists containing <b>silsesquioxane</b> and)</p>				
IT	<p>Resists (photo-, hydroxybenzyl <b>silsesquioxane</b>, <b>fluorine</b> -containing surfactants contained in)</p>				
IT	<p>11114-17-3, FC430 12707-52-7, FC431 RL: USES (Uses) (photoresists containing <b>silsesquioxane</b> and)</p>				
L79	ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN				
AN	1991:546438 HCAPLUS				
DN	115:146438				
TI	Bilayer resist system utilizing alkali-developable organosilicon positive photoresist (OSPR)				
AU	Nate, Kazuo; Mizushima, Akiko; Sugiyama, Hisashi				
CS	Prod. Eng. Res. Lab., Hitachi, Ltd., Yokohama, 244, Japan				
SO	<p>Proceedings of SPIE-The International Society for Optical Engineering (1991), 1466(Adv. Resist Technol. Process. 8), 206-10 CODEN: PSISDG; ISSN: 0277-786X</p>				
DT	Journal				
LA	English				
AB	<p>A bilayer resist system utilizing an alkali-developable organosilicon pos. photoresist (OSPR) was developed. The composite prepared from an alkali-<b>soluble</b> organosilicon polymer, poly(p-<b>hydroxybenzylsilsesquioxane</b>) and naphthoquinone diazide becomes an alkali-developable pos. photoresist which is sensitive to UV (i-line and g-line) region and exhibits high oxygen reactive ion etching resistance. The sensitivity and the resolution of OSPR are almost the same as those of conventional novolak-based pos. photoresists.. A bilayer resist system utilizing OSPR as the top <b>imaging</b> layer gave fine patterns of organic underlayers with high aspect ratio.</p>				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				

Section cross-reference(s): 76

ST **polyhydroxybenzylsilsesquioxane** pos photoresist submicron lithog; organosilicon bilayer photoresist

IT **Silsesquioxanes**  
RL: USES (Uses)  
(hydroxybenzyl, pos. bilayer **photoresists composition** containing, as top **imaging** layer)

IT Resists  
(photo-, pos.-working, bilayer, containing poly(**hydroxybenzylsilsesquioxane**) as top **imaging** layer and naphthoquinonediazidesulfonyl chloride-trihydroxybenzophenone ester)

IT 5610-94-6  
RL: USES (Uses)  
(pos. **photoresist composition** containing poly(**hydroxybenzylsilsesquioxane**) and)

L79 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:133064 HCAPLUS

DN 114:133064

TI Aluminum writing pattern-forming composition and process for forming pattern using same

IN Shiraishi, Hiroshi; Ueno, Takumi; Hayashi, Nobuaki; Fukuma, Emiko; Toriumi, Minoru

PA Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.

SO Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 377175	A2	19900711	EP 1989-123670	19891221
	EP 377175	A3	19900905		
	R: DE, FR, GB, NL				
	JP 02173647	A2	19900705	JP 1988-327781	19881227
PRAI	JP 1988-327781		19881227		

AB The title **resist composition** comprises: (a) a silanol compound having  $\geq 1$  OH group in average bonded to 1 Si atom; (b) an acid precursor capable of forming an acid when exposed to actinic radiation; and optionally (c) an alkali **soluble** resin. The Si compound may be capable of bringing about a condensation reaction by an acid catalyst. The process for forming an Al writing pattern by using the above resist and O plasma etching is also claimed. The composition can give pattern with high sensitivity and high resolution

IC ICM G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST resist acid precursor siloxane compd; aluminum pattern resist; alkali **sol** resin resist

IT Resists

(electron-beam, silicon-containing compound and acid precursor in)

IT **Silsesquioxanes**

RL: USES (Uses)

(hydroxybenzyl, **resist composition** containing)

IT Phenolic resins, uses and miscellaneous

RL: USES (Uses)

(novolak, **resist composition** containing)

IT Resists

(x-ray, silicon-containing compound and acid precursor in)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



IT 7429-90-5, Aluminum, properties  
 RL: PRP (Properties)  
 (pattern with, resist for)  
 IT 947-42-2, Diphenylsilanediol 6425-92-9, cis-(1,3,5,7-Tetrahydroxy)-  
 1,3,5,7-tetraphenylcyclotetrasiloxane 9074-30-0, Methylon-75108  
 13891-29-7 25086-36-6 27029-76-1, Formaldehyde-m-cresol-p-cresol  
 copolymer 52434-90-9 66003-76-7 66003-78-9, Triphenylsulfonium  
**trifluoromethanesulfonate** 119666-27-2 131455-82-8  
 RL: USES (Uses)  
 (**resist composition** containing)

L79 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1990:66747 HCAPLUS  
 DN 112:66747  
 TI Alkali-**soluble** polymer and photosensitive resin  
**composition for photoresist**  
 IN Tanaka, Haruyori; Ban, Koji; Imamura, Saburo  
 PA Nippon Telegraph and Telephone Public Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01106042	A2	19890424	JP 1987-262693	19871020
	JP 05076026	B4	19931021		
PRAI	JP 1987-262693		19871020		
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The title composition contains  $\geq 1$  alkali- **soluble** polymer selected from  $[\text{Si}(\text{C}_6\text{H}_4\text{X})_2\text{O}]_l[\text{Si}(\text{C}_6\text{H}_4\text{X})\text{R}_1\text{O}]_m[\text{Si}(\text{OSiY}_3)\text{R}_2\text{O}]_n[\text{Si}(\text{OH})\text{R}_3\text{O}]_p[\text{SiR}_4\text{R}_5\text{O}]_q$  and I  $[\text{X} = \text{RCO}, \text{RC}(\text{OH})\text{H}, \text{CO}_2\text{H}; \text{R} = (\text{substituted}) \text{hydrocarbon group}; \text{Y} = \text{alkyl, siloxyl}; \text{R}_1\text{-R}_5 = \text{OH, alkyl, Ph}; l, m, q \geq 0; n, p > 0]$  and o-naphthoquinonediazides of the structure II ( $\text{R}_1 = \text{H}, \text{Q}_1$ ) or III. The composition is useful for the top of a bilayer photoresist for preparing a semiconductor device. Thus, **phenylsilsesquioxane** was treated with  $\text{AcOCl}$ , and then with  $\text{Me}_3\text{SiCl}$  to give an alkali-**soluble** siloxane which was mixed with the o-naphthoquinone derivative VI to give a composition. Then, on a Si wafer, AZ 1350 was applied, overcoated with the composition, **imagewise** exposed with UV radiation, alkali-developed, and O plasma-etched to give a precise pattern on the base resist.

IC ICM G03C001-72  
 ICS C08K005-42; C08L083-06; G03F007-08

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 35, 76

ST alkali **sol** siloxane photosensitive material; acetylated siloxane double layer photoresist; naphthoquinonediazide photoresist silylated siloxane

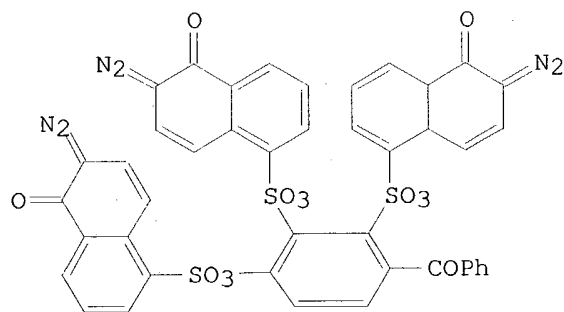
IT Siloxanes and Silicones, uses and miscellaneous  
 RL: USES (Uses)  
 (alkali-**soluble**, for photoresists, in double-layer patterning of semiconductor devices)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

- IT Semiconductor devices  
(photoresists containing alkali-**soluble** siloxane and naphthoquinonediazide for fabrication of)
- IT Resists  
(photo-, alkali-**soluble** siloxane and naphthoquinonediazide for, for top layer in double-layer patterning)
- IT 75-36-5D, Acetyl chloride, esters with siloxanes 75-77-4D, Trimethylsilyl chloride, reaction products with siloxanes  
RL: USES (Uses)  
(alkali-**soluble**, photoresists containing, in double-layer patterning of semiconductor devices)
- IT 5610-94-6 32060-64-3 112278-81-6  
RL: USES (Uses)  
(photoresists containing, in double-layer patterning of semiconductor devices)
  
- L79 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1990:45448 HCAPLUS
- DN 112:45448
- TI **Image** reversal characteristics of a novel silicone-based positive photoresist (SPP) in near UV lithography
- AU Tanaka, Akinobu; Ban, Hiroshi; Kawai, Yoshio
- CS LSI Lab., NTT, Atsugi, 243-01, Japan
- SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1989), 28(10), 2099-2103  
CODEN: JAPNDE; ISSN: 0021-4922
- DT Journal
- LA English
- AB The **image** reversal characteristics of a SPP, which is composed of an alkali-**soluble** silicone polymer (APSQ) and a diazonaphthoquinone photosensitizer, were studied. The mechanism of SPP **image** reversal in near UV lithog. is the acid-catalyzed condensation of the silanol groups in the APSQ during postexposure baking. SPP is a dual-model resist which can accommodate both a standard pos. resist process and an **image** reversal process in near UV lithog. The sensitivity is much higher in the latter process.
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST silicone pos photoresist **image** reversal
- IT Siloxanes and Silicones, uses and miscellaneous  
RL: USES (Uses)  
(**image** reversal characteristics of pos. **photoresist composition** containing diazanaphthoquinone and)
- IT **Silsesquioxanes**  
RL: USES (Uses)  
(Ph., acetylated, **image** reversal characteristics of pos. **photoresist composition** containing diazanaphthoquinone compound and)
- IT Resists  
(photo-, polymeric, containing silicone and diazonaphthoquinone sensitizer, **image**-reversal characteristics of)
- IT 75-59-2, Tetramethylammonium hydroxide  
RL: USES (Uses)  
(developer of aqueous solution containing, for silicone-based pos. **photoresist composition**)
  
- L79 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1988:85325 HCAPLUS
- DN 108:85325

TI Photosensitive resin **composition** for positive  
**photoresist**  
 IN Sugiyama, Hisashi; Nate, Kazuo; Inoue, Takashi; Mizushima, Akiko  
 PA Hitachi, Ltd., Japan  
 SO Eur. Pat. Appl., 48 pp.  
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PI	EP 229629	A2	19870722	EP 1987-100100	19870107
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AB. A photosensitive resin composition for the preparation of a pos. photoresist is comprised of an alkali-**soluble** organometallic polymer containing  $\geq 1$  of Si, Ge, Sn, and Ti and a photosensitive dissoln. inhibitor. The organometallic polymer is preferably an organosilicon polymer in which all or a part of the side chains are organic groups having phenolic OH groups and the photosensitive dissoln. inhibitor is preferably an o-quinone diazide. The photosensitive resin **composition** is used as a pos. **photoresist** which is highly photosensitive and provides high-resolution resist patterns highly resistant to O plasmas. Thus, a solution

of poly(p-hydroxybenzylsesquioxane) (containing 100% OH groups) and an O-quinonediazide photosensitive dissoln. inhibitor having the structure I in Et cellosolve acetate was coated on a Si wafer, prebaked at 85°, exposed to light, and developed in an aqueous tetramethylammonium hydroxide solution to give a pos. **image** with high sensitivity.

IC ICM G03F007-10  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST pos photoresist organosilicon polymer quinonediazide; organometallic polymer quinonediazide pos photoresist  
 IT **Silsesquioxanes**  
 RL: USES (Uses)  
 (hydroxy, alkali-**soluble**, pos.-working photoresistants containing

photosensitive dissoln. inhibitor and)  
 IT Siloxanes and Silicones, uses and miscellaneous  
 RL: USES (Uses)  
 (hydroxy, alkali-**soluble**, pos.-working photoresistants containing  
 photosensitive dissoln. inhibitor and)  
 IT Resists  
 (photo-, pos.-working, containing alkali-**soluble** organometallic  
 polymer containing phenolic hydroxyl groups and photosensitive dissoln.  
 inhibitor)  
 IT 2481-86-9 2641-00-1 5610-94-6 32060-64-3 38595-90-3 39871-04-0  
 80370-33-8 103090-89-7 103090-90-0 112935-65-6  
 RL: USES (Uses)  
 (pos.-working photoresists containing alkali-**soluble** organometallic  
 polymer containing phenolic hydroxyl groups and)  
 IT 112902-05-3  
 RL: USES (Uses)  
 (pos.-working photoresists containing photosensitive quinonediazide  
 derivative  
 dissoln. inhibitor and)  
 IT 106779-38-8P 106797-61-9P 106810-48-4P 111631-42-6P 112902-02-0P  
 112902-04-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and reaction of, in preparation of alkali-**soluble**  
 organosilicon polymer containing phenolic hydroxyl groups for pos.-working  
 photoresists)

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